MAIDENHOOD AND MOTHERHOOD; OR TEN PHASES OF WOMAN'S LIFE.

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GRANDMA'S HELPER.

MAIDENHOOD AND MOTHERHOOD;

OR

TEN PHASES OF WOMAN'S LIFE.

HOW TO PROTECT THE HEALTH, CONTRIBUTE TO THE PHYSICAL AND MENTAL DEVELOPMENT, AND INCREASE THE HAPPINESS OF WOMANKIND.

BY

JOHN D. WEST, M. D.

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JOHN D. WEST, M. D.

PREFACE.

THERE is no higher study for womankind than woman. There is no way in which the women of to-day can so well or surely help themselves and those about them and confer lasting benefits upon their children and their race as by learning to understand their own delicate organizations and how best to cherish and protect them. Mothers mold the characters of their sons and daughters, by their early training or by want of it, either for good or for evil. Even the best mothers, either through mistaken delicacy or want of information, often neglect to instruct their daughters in those matters about which they most need to know. The little girl realizes that she is not a boy; she does not know why. She changes to maidenhood without realizing the great purpose which Nature is working out, and often comes to womanhood without more than suspecting the grave responsibility of living and giving life. Her children die in infancy and she is tempted to blame Providence for afflictions which it might have been within her power to avert. If they grow to mature years it may be with a weak constitution or imperfect health, which had their cause and beginning in her own lack of information before they were born.

It may be that they are afflicted with blemishes or deformities that might have been prevented, but which are now beyond the reach of simple and effective cure. If it so be that they grow up to perfect manhood and womanhood, she passes on to the evening of life secure in their protection and grateful to that Divine power which has thus blessed her among women.

In a busy practice of more than thirty years as a family physician, I have been frequently, almost constantly, impressed with the fact that much of the pain and many of the disappointments and failures of life might be avoided if mothers were better informed both as to themselves, their own needs, and those of their children. So impressed, and believing that I can render no better service to my Creator or my fellow-creatures, I have endeavored to set down in the following pages the results of my own study and observation, in the hope of securing better health and greater happiness to women and their children, by instructing them fully as to the nature of those peculiarly feminine functions; the requirements of their organizations during the various stages of development; by teaching them in language chaste and delicate, but plain and unmistakable, how to fulfill the duties and avoid the dangers of maidenhood and motherhood.

THE AUTHOR.

TABLE OF CONTENTS.

THE INFANT.

What It Is and What It May Become, Its Helplessness, the Embryo Man or Woman, the Copy of Its Parents, Inherits Physical Qualities from Both Parents, It May Be Improved by Training, Correction of Deformities, Removal of Constitutional Defects, Intellectual Keenness and Moral Rectitude Developed—**Hygiene of Infancy**, Importance of Knowing the Laws of Health, Necessity for Rigid Enforcement, Relation Between the Mind and the Body, Care of Infant Should Begin at Birth, Why the New-born Child Cries, Temperature of the Room, Cleansing the New-born Infant, Applying "the Bandage," Dressing the Child—**Baths in General**, Importance of Cleanliness, Dangers of too Frequent Bathing, the Use of Soap, Temperature of the Water, the Bath Tub, Proper Time for Bathing, Soothing Effects of Evening Bath, Cold Water Bath, When Allowable, Dressing After the Bath—**Clothing**, Regard to Season and Climate, Should Be Soft and Warm, Should not Compress the Internal Organs, Allow Free Exercise of the Limbs, Comfort of the Child to Be Considered, the Long Dressing-robe, Proper Material to Be Used, Body Should Be Equally Protected, Protecting the Lower Limbs, Folly and Dangers of Maternal Vanity—**Sleeping**, Necessity for Great Amount of, a Separate Cot, Location of the Cot, Regularity of, Importance and Necessity of, How Secured, Proper Time For, the Sleeping-room, Exclusion of Light and Noise, Sleeping Potions, Baneful Effect of Drugs, Causes of Wakefulness, Care of Sleeping-robes and Cot—**Rocking or Exercise**, Exercise Essential to Health, Why Infants are Soothed By, the Effect of Habit, Danger of too Violent, Open-air Exercise, Effect of Sudden Changes of Temperature—**Feeding or Nursing Infants**, When to Begin, the First Mother's Milk, Pernicious Effects of Artificial Purgatives, the Natural Laxative, Proper Cases for Artificial Purging—**Food of Infants**, the Natural Provision, the Mother's Milk the Best, When This Should Not Be Given, the Best Substitutes, Quantity and Mode of Giving, Frequency of Nursing, Dangers of Over-feeding, Effects of Excessive Nursing, Regularity of, Nursing During the Night, Care of the Child During the Night, Necessity of

Rest and Sleep for the Mother—**The Nursery**, Importance of, Arrangement, Situation and Management of, Importance of Light and Pure Air, Bright and Cheerful Outlook Desirable, Southern Exposure Preferable, Beneficial Effects of Sunlight, Deleterious Effect of Imperfect Sanitary Conditions, Dangers of a Vitiated Atmosphere, Equable Temperature Desirable, Best Manner and Means of Heating, Overheating Should Be Avoided—**Weaning**, Proper Time to Begin, Health of the Mother, Robustness and Development of the Child, Indications of Teething, Dangers of Premature and of Delayed Weaning, Gradual Process of, Nature, Quality and Quantity of First Artificial Food, Dangers of too Frequent Feeding, Growth of Appetite to Be Regarded, Rich and Highly-seasoned Diet to be Avoided—**Artificial Nursing**, the Wet-nurse, Care in Selection of, Should Be Strong and Healthy, Physical Qualities Desirable in, Temper and Disposition Are Important, Dangers of Feeding Children, Natural Method Should Be Imitated in Feeding by Hand, Care of the Nursing-bottle, Regularity in Using the Bottle, Good Milk Should Be Procured, Gradual Use of Other Food—**Teething**, Symptoms of Approach of, Indications of, First Stage, the Second Stage, the Natural Process, Why Accompanied by Dangers, Care of Child During, Open-air Exercise, Frequent Bathing, Dieting, the First Teeth, First Period of Teething, Second Dentition, Importance of the Teeth, Use of in Mastication, Contribute Beauty and Symmetry, Aid in Articulation, the Care of the Teeth, Regular Cleansing, Dangers in Using Patent Nostrums, a Good Dentifrice—**Diseases of Infancy**, Causes of, Convulsions and Treatment of, Sore Mouth, Causes and Cure of Costiveness, Worms and Treatment For, Diphtheria, Sore Eyes, Earache, Chafing, Nose-bleed, Urinary Troubles, Colds, Croup, Whooping-cough and Its Complications and Treatment, Vaccination—**Learning to Walk**, Time to Begin, Care and Patience in.....117 to 118

THE CHILD.

General Causes of Disease Resulting from Errors in Diet, the Two Great Offices of Food, Amount Required Variable, no Infallible Rule, Different Kinds Required, the Digestive Operation, the Essential Elements of Food, Preparation for Use, Proper Purpose of Food, Meat for Children, When to Commence Using Meat, Solid and Liquid Food, Methods of Cooking Meat, Bread, Different Kinds of Flour, the Process of Baking Wheat

Bread, Corn Bread, Puddings, Potatoes, Beneficial Quantities of Vegetables, of Fruits, Functions of the Stomach as Affected by Food, Influence of the Mind on the Digestive Process, Proper Food Regimen for School-girls, General Causes of Disease from Diet, Normal Condition of the System, Study of Physical Laws, Deleterious Effect of Luxurious Diet and Social Dissipation, Comparative Health of Rich and Poor Children, Errors in Dress as Causes of Disease, Effects of Improper Clothing—**Amusements**, Important to Physical Development, to Proper Intellectual Training, Mistakes of Parents with Regard to, Various Kinds of, In-door and Out-door Recreations, Mental and Physical Exercise Should be Considered Equally, Sound Mind Requires a Sound Body, Exhilaration of Out-door Games — **Moral Training**, Importance of Good Moral Character, Inheritance of Moral Qualities, Dawn of Moral Intelligence, Evidences of the Existence of Moral Perception, How the Moral Emotions are Reached, Development of the Internal Emotions, Duty of Parents to Cultivate, When to Commence Moral Education, Evil Effects of Indulging Whims and Caprices, Dual Process of Moral Training, the Key to Successful Government and Training, Commanding Influence of Parents, Imitative Disposition of Children, Supreme Faith of Children in Parents, Intuitive Perception of Truth and Falsehood, Necessity of Setting Good Example Before Children, Pernicious Effects of Bad Example, Immoral Practices Learned from Playmates and Nurses, Means of Correcting Evil Influences, Conduct of Parents Should be Exemplary, Various Causes Which Influence the Child-mind, Necessity of Constant Watchfulness of Parents — **Dress**, its Effect Upon the Mind and Disposition of the Child, Mistakes of Parents with Regard to Dress of Their Children, Primary Object of Clothing, Adapted to the Functional Operations of the Body, Injurious Effects of Improperly Constructed Clothing, Sensitiveness of Children with Regard to, the Influence of Fashion on, Its Effect Upon the Life and Character of the Child — **Government of Childhood**, Parenthood Involves Obligations, Parents are Natural Teachers and Rulers, Necessity of Discipline, Evil Results of Lack of Discipline, Abortive Discipline, When to Commence, Effects of Delay, How Long to Continue, Undue Severity and Unlimited Indulgence, Authority Tempered with Kindness, Training Should Include Physical, Mental and Moral Nature, the Religious Nature of the Child, When to Commence Religious Training, Proper Methods of Conducting..119 to 174.

PUBERTY.

Definition of Puberty, What It Is, Changes Wrought By, The Sign of —**The Menses**, Evidence of Approach, Duration of, Symptoms of First Menstruation, Precautions to Be Taken, Age at Which Menstruation Begins, Effect of Race and Climate on, Menstruation in Tropical Climates, Influence of Temperament on, Habits of Life on, Effects of the Excitation of Certain Emotions, Dangers to the General Health, Influence of Constitutional Tendencies, Care of the Health During, Attention to Dieting, Effect of Stimulants, Beneficial Influences of Exercise, Length of Interval Between Periods, Variations from the Rule, Length of Menses, Exceptional Cases, Office of the Menses in Procreation, the Ovaries, Normal Condition of Menstruation—**Disorders in Menstruation**, Two General Causes of Functional Disorder, Temperament and Menstruation, Quantity and Quality of Food Used, How Rich Living Effects Menstruation, Effects of Breathing Vitiated Air, of Insufficient Exercise, of Loss of Sleep—**Amenorrhea**, What It Is, the Two Principal Causes of, Symptoms of from Constitutional and Accidental Causes, Local Symptoms, External Evidences of the Gravity of the Complaint When Neglected or Improperly Treated, the Hygienic Treatment of, Medical Treatment of —**Menorrhagia**, What It Is, the Three Phases of, Variations in Menstrual Discharge and Causes of, Different Kinds of Women Liable to, the General Causes of, Hygienic Treatment of, Medical Treatment of—**Dysmenorrhea**, What It Is, Nature and Importance of the Complaint, the Symptoms of, the Five Varieties of, Hygienic Treatment of, Class of Women Most Subject to—**Diseases from Derangement of Menses**, Chlorosis, Nature and Causes of, Symptoms, Treatment of, Chorea, When First Known, Character and Symptoms of, Persons Most Subject to, the Common Evidences of, Treatment of, Hysteria, General Ignorance of, Annoyance of, the General Causes of, Some Immediate Causes of, Persons Most Liable to Attack, Cases Specified, Other Diseases Aggravated by, Some Effects Produced by, Remarkable Peculiarities of, Other Complaints Mistaken for, General Symptoms of, Liability of Deception in Symptoms, Peculiar Cases Enumerated, Treatment of, Dangers of Neglecting, Reasons Why It Is Neglected, the Hygienic Treatment, General Exhaustion, Symptoms of, Effects of Protracted, Treatment of, Hygienic Care.....175 to 240

THE MAIDEN.

General Remarks, the Untrammeled Freedom of Childhood, the Mysterious Changes Wrought in Puberty, the Fading Away of Childhood, the Dawn of Womanhood, the Birth of New Desires, Hopes and Experiences, the Mystery of Sex—**Accomplishments,** Mistaken Notion of, Naturalness of, True and False, Importance and Necessity of, Utility Not the Sole End of Education, Nature and Extent of True and Desirable, Errors in Obtaining, the Eminent Desirableness of—**Engagements,** When to Make, the Importance of in Courtship, Reasons Which Determine the Length of, Effect of on Courtship, When to Be Broken, Physiological Reasons Against Long—**Love at First Sight,** the Rule of Love, Exceptions to the Rule, Importance of Discriminating Between Love and Passion—**Love,** What It Is, Its Origin and Inspiration, as Defined by the Greeks, Passionate Impulse and True Love, Physical and Moral, Involuntariness of—**Courtship,** Definition of, Blissfulness of, Essential Purpose of, A Study of Suitableness, Determines the Happiness or Unhappiness of Marriage, False Views of, Unhappy Results of False, When Proper to Begin, How Long to Continue—**How to Select a Husband,** Importance of the Question, Points to Be Considered, Consanguinity, Constitution, Health, Race, Temperament, Education, Habits—**Qualifications of a Husband,** Filial Love, Kindness, Purity, Temperance, Industry and Frugality, Business, Not Jealous, Moral and Religious—**Marriage,** Proper Time of the Year, the Time of the Month for—**The Wedding,** What Is Included in the Term, the Bride's Relations to, Proper Place for, Labor Entailed on the Bride, Invitation of Guests, Trials of the Ceremony, the Wedding Feast, the Bridal Tour, the Best Way to Spend the Honeymoon—**The Marriage Contract,** Importance of, the Divine Institution of Marriage, Effect of Marriage on Longevity—**Divorce,** When and Why Allowed, the Growing Frequency of, When Proper—**Subsequent Marriage,** the Sad Lot of Widowhood, Reasons for a Second Marriage, the Affection of Second Marriages—**Sacredness of Marriage,** Viewed as a Divine Institution, Considered as a Social Compact, Mutual Absorption in Marriage, Claims Which Each Holds Upon the Other, Mutual Necessity of Faith and Faithfulness—**The New Home,** the Wedding Festivities Ended, Setting Up the New Home, the Characteristics of a Happy Home, the Home Instinct, the Part of the Wife in the Home, the Pleasures of Home-making, the Happy Queen.....241 to 330

THE WIFE.

The New Epoch, Eager Anticipations, the Seriousness of the Step, Giving up the Old Life, the Unrevealed Future, New Associations and Experiences, New Friends and Strange Scenes, Relations of Birth Superseded by Those of Choice, the Blessedness of a Happy Choice—**The Marriage Chamber**, Location of In the Home, Furniture and Arrangements of, Ventilation and Sanitary Appointments, First Occupation of—**The Marriage Bed**, Nature's Sweet Restorer, Constituents of a Good, Proper Care of, Sanitary Objection to Certain Kinds of—**Marital Relations and Privileges**, Nature of the Relation of Husband and Wife, Naturalness and Necessity of Such Relation, Changes Wrought in Maiden by, Embarrassment of New Wife, Unwarranted Test of Purity, Congeniality and Exclusiveness, Connubial Faithfulness—**Proper and Improper Sexual Indulgence**, Rights and Duties of the Marital State, the Order of Life-Production, Baneful Effects of Improper Indulgence, the Rule Among the Lower Animals, Physiological Necessity of Indulgence, Various Theories Concerning the Regulation of, Continence Beneficial, Creative Power of Woman, Her Rights in the Conjugal Relation—**Physical and Moral Effects of Excess**, the Common Experience, the Ignorance of the New Wife, Modesty and Prudery, False Notions of True Love, the True Conception, Victims of Legalized Lust—**Painful Congress**, an Abnormal Condition, Causes Which Produce, Remedies for—**Offspring**, the Prime Purpose of Marriage, Essential to a Happy Home, the Expectation of, the Blessings of, Depth of Affection for—**Should Offspring Be Limited?** Importance of the Question, Inferences from Nature, Subsidiary Questions, Facts to Be Considered Regarding, the Proper Conclusion, Objections to, Difficulties Surrounding the Subject, Misconceptions of Divine Teachings, Evil Results from Immoderate Child-Bearing—**Extent to Which Offspring Should Be Limited**, No General Rule, Physiological Considerations Involved, Law of Limitation in Certain Cases, Constitutional Tendencies Considered In, Over-fecundity, Good and Bad Results of Child-bearing—**Proper Methods of Limiting Offspring**, Delicacy of the Question, False Notions Regarding, Justification in Using, Injustice and Injury in Neglecting, the Duty of Self-Restraint, Natural Provisions for—**Improper Methods**, Moral and Physiological Aspects of, Menace to Conjugal Peace and Happiness, Fœticide, Abortion, Alarming Prevalence of, Infamous Criminality of, Cases from Real Life Related, Common Methods

of Abortion Used, Dangers of—**Barrenness,** Deplorable Condition, Causes Which Tend to Produce, Temporary and Permanent, Means for Removal of.....331 to 408

MATERNITY.

Pregnancy, Process of Conception Explained, Necessary Conditions to, Changes of the Uterus Which Follow, First Symptoms of, General Indications Enumerated and Explained, the Indigestion of, Constipation and Diarrhea, Changes in the Breasts During, Appearance of the Abdomen, Quickening, Beating of the Fœtal Heart, General Appearance—**Discomforts of Pregnancy,** Heartburn, the Cause and Cure, Toothache, Affections of the Mind, Nervous Affections—**Duration of Pregnancy,** the Common Period, Some Remarkable Exceptions Noted, Earlier and Later Pregnancies—**The Unborn Child,** What May Be Known of It, Determination of Its Sex, Singular Cases Related, the Production of Sex at Will—**Twins,** An Unnatural Production, Persons Most Liable to Bear, Causes Which Lead to the Bearing of—**Second Pregnancies,** Explanation of Meaning, Difficulties in Determining, Some Remarkable Cases Recited, the Moral Aspects of the Question, Sex and Twins Before Birth—**Hygiene of Pregnancy,** No Special Change in Diet Required, Evil Effects of Unwise Gossips on the Mother and Child, Imprudence of Anxiety, the Best Friends and Counselors, Pleasant Surroundings, Proper and Improper Food, Quantity and Manner of Wearing Clothing, Amount and Nature of Exercise, Ventilation of the Dwelling-rooms, Care of the Nipples, the Sleeping-room, Company Desirable and Undesirable, the Gratification of Fancies—**Inheritance,** Different Kinds of—**Misfortunes to the Child During Pregnancy,** Influence of the Mother on the Unborn Child, Necessity for Care and Economy of Vital Forces, Effect of Mental Impressions, Unnatural Developments, Curious Cases Related, Birthmarks Explained—**Miscarriage,** When Most Likely to Occur, How Early a Fœtus May Live, Causes of Miscarriage, General Symptoms of, Preventive Treatment—**Relation of Husband and Wife During Pregnancy,** Various Opinions Held Concerning, the Best and Safest Plan, Difficulties in Adhering to.....409 to 476

CONFINEMENT.

Preparation For Confinement, Symptoms of Approach, The Bed-Chamber, Location of, The Bed, Arrangement of, Temporary Dressing of the Bed, Attendants—**Actual Labor,** Symptoms of the Approach of, First Pains of, "A Sick Labor," Pains of First Stage, Nature of, Character of Labor in Second Stage, "A Dry Birth," the Third Stage of Labor, Expulsion of the Placenta, Methods of Removing the Placenta—**Attention to Be Given Mother and Child,** Food and Stimulants During First Stage, Aids in Delivery, Danger from Hemorrhages and Convulsions, Tying and Cutting the Navel Cord, Wrappings for the New-born Infant, Application of the Binder—**Hemorrhages,** Accidental, In *Placenta Prævia*, Before Delivery, Premonitions of Hemorrhage After Delivery, Treatment of, Treatment of *Placenta Prævia*—**Version,** Conditions Making it Necessary, Difficult in Absence of Liquor Amnii, Method of Performing.....477 to 500

THE MOTHER.

Her Responsibility, Feelings of the New-made Mother, Care of the Mother After Child-birth, Darkening the Room, Attendance, Flooding and Convulsions Consequences of Child-birth—**Putting the Child to Breast,** First Effects of on the Child, Advantages of to the Mother, Device for Developing the Nipples, Care of the Breasts During Pregnancy—**Child-birth,** How to Care for the Mother After, Cleanliness Essential, Avoid Erect Position, Changing the Clothing of the Mother, Preparation to Leave the Bed, Proper Time for, Laxative for Moving the Bowels, Abundant Supply of Fresh Air for the Lying-in Chamber, the Evil Effects of Imperfect Ventilation, an Illustration of, Covering of the Bed, Should Combine Lightness, Warmth and Porosity, How to Change the Linen, Dressing the Mother's Hair, How and When it Should Be Done, Food—**Directions for Nursing,** Benefits of Mother Nursing Her Own Child, Circumstances Rendering It Impossible or Unadvisable, Regularity in Nursing, How to Prevent or Overcome Deformities, Influence of Diet on the Mother's Milk, Influence of Menstruation, Influence of the Mind—**The Wet-nurse,** Qualifications of a Good Nurse, Wet-nursing, the Necessity of, Selection of the Wet-nurse—**Excessive Lactation,** How to Pre-

vent, Directions for Arresting the Secretion of Milk, Pain of the Breasts from Over-distention, Remedy for—**Deficient Lactation**, Causes of, How to Overcome Suppression of Milk, by Suction, by Topical Applications, by Electricity—**The Relation of Husband and Nursing Wife**, Should Continence Be Observed During Period of Lactation?.....501 to 534

MATURE WOMANHOOD.

The "Climacteric Period," Change of Life Defined, Cessation of a Physical Function, Reproductive Period of Woman's Life, Length of, Early Cessation of Menses, Incidents Attending Change of Life, Tendency to Certain Changes and Diseases, Much Physical and Mental Disturbance, Preparation for the Approaching Change, the Food, What It Should Consist of, Importance of Rest, Close Observation of the Laws of Hygiene Necessary, Placidity of Mind, Cessation of Menses Physiologically Considered, Result of Well-Defined Natural Laws, Suffering Caused by Disobeying Laws of Health —**Death of the Husband**, Influence of upon the Wife, Desolation of the Widow, Health of Widows as Compared to Others, Beneficial Effects of Marriage on Many Women.....535 to 546

CELIBACY.

Advantages and Disadvantages, "It Is Not Good for Man to Be Alone," Paul the First Celibate, Regarded by Him from Religious Standpoint, the Law of Nature on the Subject, Marriage as a Factor in Human Life, Health of Married Women Compared to Unmarried, Testimony of Physicians and Social Statisticians, Certain Class of Ailments Cured by Marriage, Child-Bearing the End of Woman's Being, Exception to these General Rules — **Advantages of Single Life**, Free from Domestic Cares, Time for Cultivation of the Mind, Free from Pains and Dangers Peculiar to Maternity, Many Occupations Now Open to Women, Social Advantages of the Unmarried—**Disadvantages of Single Life**, Effects of upon the Disposition, Misses the Completeness of Life, the Domestic Happiness of the Wife, the Delight of Having a Home, Marriage and Maternity the Better Way.....547 to 552

DISEASES OF WOMEN.

General Remarks on, Object of This Chapter, Aid in Determining Complaints Peculiar to Women, Diseases of Pregnancy Period Unnatural and Unnecessary — **Definition of Disease,** Health Defined, Disease a Deviation from the Condition of Health, Number of Diseases — **Principal Causes of Disease,** Predisposing Cause" Defined, Disease Can Be Avoided if Predisposing Cause Be Known, Causes of Disease are Various, Atmospherical Causes, Bad Quality of Food, Excess in Eating, Intemperance in Drinking, Influence of Certain Vocations, Excessive Indulgence in Sleep, Intellectual Toil — **Various Kinds of Pulse,** Dicrotic, Filiform, Gaseous, Hard, Intermittent, Jerking, Quick, Small, Tense, Wiry — **Morning Sickness and Vomiting,** Causes of, Symptoms of, Treatment of — **Pains in the Bowels,** Result from Two Causes, Remedies to Be Administered — **Constipation,** Cause of Other Disorders, Causes of Constipation, Treatment of, Active Purgatives Injurious, the Dietetical Method, the Medicinal Means, an Important Rule, Mechanical Means, Treatment of Constipation by the Swedish Movement Cure, Description of — **Diarrhea,** One Form of Caused by Mental Emotions, Treatment of, Other Causes, Food to Use and Food to Avoid During — **Hemorrhoids or Piles,** Description of Symptoms, Cause of Piles, The Prophylactic Treatment of, Proper Course of Diet, Medicinal Treatment of — **Varicose or Enlarged Veins,** Cause of, Different Methods for Treatment of — **Wakefulness or Insomnia,** A Nervous Affection, Two Classes of Treatment for, First Soothe Nervous System, Second Diminish the Amount of Blood in the Brain, Attention to Diet, Physical Exercise, Warm Baths, Medical Treatment — **After-pains in Child-birth,** Three Varieties of, Symptoms of, Treatment of — **Lochia or Vaginal Discharges,** The Nature of, Importance of Cleanliness During, Treatment of — **Phlegmasia Dolens or Milk-Leg,** Nature of the Disease, Treatment of — **Puerperal Mania or Insanity,** Three Special Divisions: (1) Insanity of Pregnancy, Symptoms of, Kleptomania a Characteristic, Incurable Until After Delivery, (2) Puerperal Insanity (proper), Symptoms and Causes of, Duration of the Disease, Requires the Most Skillful Treatment, (3) Insanity of Lactation, Nature of the Disease, Treatment for Puerperal Mania — **Puerperal Convulsions,** Serious Nature of, Premonitory Symptoms of, Symptoms of the Attack, Treatment of, Bleeding, Medicinal Means, Inward Fevers (Puerperal Peritonitis, etc.), Four Principal

Varieties of, Symptoms of Each, Conditions Productive of this Disease, Course of Treatment for—**Leucorrhea or "Whites,"** Symptoms and Causes of, Acute or Chronic, Nature of Each, Treatment of—**Milk Fever and Sore Breasts,** Nature of, Treatment for—**Diseases of the Vulva,** Inflammation, Method of Treatment for—**Follicular Inflammation of the Vulva,** Cause and Treatment of—**Pruritis of the Genitals,** Characteristics of, Medicinal Treatment for—**Eczema,** Acute and Chronic Forms, Symptoms of, Treatment—**Inflammation of the Womb,** Acute and Chronic Forms, Description of Symptoms and Treatment of Each—**General Disorders of the Uterus,** Various Theories Concerning—**Displacement of the Womb,** Causes Produring Displacement, Various Kinds of, (1) Prolapsus Described, (2) Antiversion Described, (3) Retroversion Described, General Treatment for Displacements, Services of Physician Required—**Diseases of the Ovaries,** Variety of, Atrophy Described, Hypertrophy Described, Displacement of the Ovaries, Local Symptoms of, General Symptoms of, Nutrition, Exercise and Baths as Treatment for, Inflammation of the Ovaries, Symptoms and Treatment of—**Nervous Exhaustion,** Speculation With Regard to, Various Symptoms and Causes of, Organs Affected, Various Modes of Treatment for.....553 to 692

THE INFANT.

What It is, and What It May Become.

THE helpless little being, ushered into the world in a burst of pain, is a bundle of possibilities. At present it has life and the instinct of perpetual life. Beyond this it is entirely helpless. Not infrequently the machinery of life must be started by others. For days and weeks and months, the working of the delicate mechanism by which life is maintained and developed must be watched unceasingly. Obstructions must be removed, developing activities must be aided, and functional operations must be stimulated. At maturity the most beautiful and the most perfect of all the animal creation, at birth the most helpless, its helplessness is its strong defense.

This little wailing creature is the romping girl, the amiable maiden, the affectionate mother, the noble woman, in embryo. There is in the little babe all that is to be found in the mature woman. Growth and development add no original organs. Nothing is created by growth. Nothing is added to what was possessed at birth. The little limbs grow stronger, larger, and more shapely. The delicate organs will perform their various functions with greater certainty and with better results,

the different parts of the physical organism will develop into a more perfect harmony of operation and adaptation to designed ends, but they are all present in the new-born babe. Because the babe is possessed of the organs of the mature man or woman, and because the future harmonious activity of the organs depends upon the care and culture bestowed upon them — because of these things the infant is an object of importance and solicitude. Even where physical humanity is developed to its full, robust, hardy completeness, many of the parts of the machinery are still delicate and sensitive. They are easily obstructed, easily destroyed. This is true of the organs of sight, of hearing, of circulation, and true of many others. Much more delicate are these organs in the immaturity of infancy. Consequently, much more vigilance and care are necessary.

The infant is, then, the embryo man or woman. It is more; it is its own parents' child. To a certain extent the child is what the parents, and especially the mother, have made. It is a reproduction of themselves. It will possess their physical and intellectual traits and their moral bent. It has often been true, perhaps will often be again, that the health and destiny of a man or woman was determined in the mother's womb. It came into independent existence handicapped with a physical or mental deformity for which the mother was responsible during gestation.

Suffice it to say now, that when the child is born a complete human being, it will possess largely the same physical characteristics which marked one or both parents.

This latter fact is a guide to parents in the care of their offspring in infancy and before they are able to know from experience the peculiar traits of their children. Knowing themselves, their weaknesses and deficiencies, they can assume that they will reappear in their children. It is a safe assumption on which to proceed at first. Children do inherit diseases, and they generally inherit a predisposition to the complaints with which their immediate progenitors are afflicted. This is one source from which children draw the evils which inhere in their organisms at birth. They also run the gauntlet of another class of evils, which are the result of forces brought to bear by the parents either at the time of conception or during the period of gestation.

The infant may become a child altogether different from what the promise of its birth indicated. Deformities can be corrected, evils can be eradicated, diseases can be healed. Intelligent application of the laws of hygiene, thorough application of the skill of medical science, and assiduous, unwearying vigilance, can almost work miracles. The crooked can be made straight, the lame can be made to walk, and the blind can be made to see. Hereditary predispositions can be overcome. Imperfectly developed organs can be drawn out into symmetry and health. Some evils cannot be removed, but many faults of the physical constitution can be corrected.

The intellect and moral nature of the infant depend to some extent upon the perfect action of its physical organs. Health is a great moral agent; a diseased body and

brain are ill adapted to the proper apprehension and segregation of the principles of truth. As the child first sees and apprehends, so will be the bent of after-information. Intellects have been warped, the moral nature dwarfed, and the whole emotional nature disordered by bad digestion and impaired secretions. The possibilities bound up in the little infant are great and far-reaching. They determine in their development what the life here and hereafter shall be. From the time of its independent existence, there opens up before it a life of happiness or misery, of blessing or cursing, of good or evil. On, over and beyond, there is an eternity of bliss or wretchedness. The infant has a body to live and a soul to be saved.

The Hygiene of Infancy.

At no period in the entire course of life is there so great a demand for an intelligent and rigid application of the principles of hygiene as in infancy. A number of factors conspire to bring about this necessity: The physical economy is exceedingly delicate; the infant being is utterly helpless, both to aid and protect itself and to make known its feelings and needs to others; the sensitiveness of its organism renders it very susceptible to the influences which invest it, and which are potent for its well-being or its injury, both at the time and in all subsequent life. Upon the knowledge of the laws of health and life possessed by the mother or nurse will depend the future of the object of their care.

The proposition laid down cannot be too strenuously pressed. Attention or neglect of the child in its earlier years has a far-reaching effect. So intimate, intricate and mysterious is the connection between the material and spiritual that the care of the material, at this period of existence, conditions largely the intellectual and moral bent and expansion of the adult. A sound mind presumes a sound body; moral perception, delicacy and completeness co-exist with intellectual breadth, depth and clearness. The three elements which enter into the composition of a human being — body, mind and soul — are so intricately interwoven that they mutually influence each other. Matter influences mind, and mind acts on matter, each according to its own laws. To have, then, an adult well-equipped for fulfilling the ends of being, possessing a fully-developed and sound body, an intelligence keen and bright, a moral nature sensitive and undwarfed, it is imperative that the infant receive the fullest benefit which hygienic treatment can confer.

Following the order laid down in this work, and which is also both the natural and the logical order, it is proper to commence with the birth of the child. It is then that it begins its dependent existence. The sudden transition of the new-born babe from the uniformly high temperature of its mother's womb to the external air, is a great change. The differences in this external temperature are great, even in the warmest months, and in a room heated to the highest point of comfort and endurance. The effect upon the infant is so great that instinctively it cries aloud.

Manifestly, then, the first duty of the nurse should look toward restoring the babe, as quickly as possible, to a temperature similar to that to which it was accustomed. This may be done readily by enveloping it in a wrapping of soft flannel, previously warmed, or by placing it in water heated to the temperature of the human body — that is, about 96° or 98°. If the infant be vigorous and its breathing free and regular, the process of thoroughly cleansing the surface of its body may be commenced at once. The object of this ablution is to remove from the skin everything that would in any way impede or interfere with its proper and healthy action. Not infrequently the new-born child is found covered with an unctuous mucous, or white tenacious coating. This served a natural and necessary purpose in protecting the sensitive surface of the body while it remained in its mother's womb; now such covering is not only unnecessary, but positively injurious. It acts as a decided irritant, and interferes with the proper capillary action. This mucous covering must be removed entirely. To accomplish this without injury to the babe will often tax the skill as well as the patience of the attendant. The easiest and safest plan is to first thoroughly but tenderly lubricate the body with fresh lard, unsalted butter, or olive oil. A piece of soft flannel or sponge can be used in this operation. This will so loosen the covering that its removal becomes comparatively easy.

Care must be taken that this cleansing extend to the entire body, especially to those parts of the skin which

cover the joints, groins, ears, neck, and the irregular parts of the body generally. The water used in the final act of cleansing should be pure and milk-warm. Especial care is needed in washing the eye-lids. It has often happened that troublesome and serious inflammation of the eyes have resulted from allowing impure water to enter the eye during this cleansing. The eyes should also be protected from the direct rays of any strong light, natural or artificial. The eyes attended to, the entire body can then be cleansed with the same water, using with it a little castile soap. With a soft napkin, the body should be dried thoroughly, and the rubbing process be continued until a gentle glow is excited over the whole surface. This done, let everything that is wet or damp be removed from about the child ; place it upon a soft, warm blanket, and see that the temperature of the room is comfortable and free from air-draughts. The child should not be placed too near a hot fire.

The infant, being now washed and dried, the next step is the application of "the bandage." This bandage should consist of fine flannel, merino or some similar material. It should be five or six inches wide, and long enough to go, at least, one and one-fourth times around the body. Before the bandage or roller is applied, let a piece of old muslin be prepared. It should be three or four inches wide and eight or ten inches long. Fold it midway, and two or three inches from the folded end cut a small hole, large enough to receive the navel-cord. Pass the cord through the opening made, wrap around it a

small piece of old muslin, and lay it down in the direction of the long end of the compress. Fold the muslin back over the cord, holding all in proper position with the palm of the hand until the bandage is adjusted. This bandage may be fastened with pins ; but it is more desirable that it be stitched with a needle and thread. If the latter fastening be employed, commence to sew from the lower edge, drawing the bandage fairly close to the body, so that it will fit neatly ; it should not be drawn so closely over the stomach. If pins be used, care should be taken that the points be not left in a position where they may prick the child. The diaper should next be applied, in the inside of which a couple of folds of old, soft muslin may be placed. The latter will thus receive the meconium, or contents of the bowels, and can be removed and burned, thus saving the trouble of washing.

Having proceeded thus far in the care of the child, it becomes a matter of judgment regarding the next step. If it continues vigorous, the process of dressing may be continued. If, on the other hand, it shows symptoms of weariness or exhaustion, it should be wrapped loosely in flannels and allowed to sleep. This sleep will restore its strength. If it be consigned to sleep, great care should be given to the temperature, draughts and the coverings. There must be sufficient of the last to insure a proper degree of heat, but not enough to impede breathing and the free action of the organs.

Baths in General.

What has hitherto been said regarding the bathing of the child has been with reference to the first cleansing subsequent to birth. The subject is an all-important one to the mother in caring for her offspring throughout their entire infancy and childhood periods. Cleanliness is a prime factor of good health. The skin is extremely delicate, sensitive, and easily injured. Moreover, from it there is a constant exudation of waste matter in the form of perspiration. This perspired fluid holds in solution atoms of worn-out animal matter and saline substances. There is, also, a discharge, through the pores of the cuticle, of an oily substance, the purpose of which is to keep the skin-surface soft and pliable, as well as to protect it from injury. This oily secretion is more abundant on some parts of the body than on others; as, under the arm-pits, etc. It may be readily detected in the form of globules on the surface of the water after bathing. Without the presence of this oily matter these parts of the body which are contiguous to each other would, by friction, become chafed.

In infancy this oily secretion rarely exceeds in quantity what is absolutely necessary to keep the skin in proper condition. It is Nature's plan of supplying a demand of the animal nature of the child. In health it should not give rise to any unpleasant odor, unless allowed to accumulate to an abnormal extent. It must not be forgotten, however, that these accretions are impurities, and,

if they be allowed to remain too long in contact with the skin, they cause irritation ; and this, in turn, obstructs the pores of the skin, and thus prevents further exhalation. When this condition arises, it works more than a local injury to the child. The exudation is necessary to health, and Nature's established way is through the pores of the skin. If this course be closed, the effort to cast off the effete particles will still be made in other directions. Tribute will be laid upon the bowels, the kidneys, the lungs and other organs, to do the work which Nature intended should be performed by the cuticle. The extra labor thus imposed upon these organs will inure to their injury. On the surface of the body, denied its natural and necessary supply of recuperative agencies, an irritation will be created, which, in turn, will give rise to troublesome eruptions.

If the character of the matter exhaled from the skin be considered, the manner of its ready removal is no difficult task. The dress of the child should receive a first consideration, as it has an important bearing in the case. It should be as light in weight as is consistent with proper warmth. The fabric should be of sufficiently open texture to allow a free and unimpeded passage of the invisible vapor which forms so large a part of the excretion. The saline residue can easily be removed by frequent ablutions of tepid water. There is a diversity of opinion regarding the extent to which soap may be employed beneficially in bathing children. Some authorities recommend its use at all times, while others take the

opposite extreme and deny its use at all on any parts of the body except the hands and face. A middle course is still better. The saline particles are readily soluble in water alone ; so far as their removal is concerned, soap is unnecessary. When, however, the accumulation of the oily substance is such that its removal is desired, soap is necessary. This form of secretion is insoluble in water, but readily so in soap.

With many, and perhaps most infants, it is undesirable that this oily substance be removed very frequently. It is necessary to keep the skin in proper condition. Its too frequent removal — which always follows where soap is used in bathing — leaves the skin dry, with a tendency to chafe and even to break out in fissures, from which troublesome affections of the skin arise. This is true in adults as well as in children. There are many persons who are forced to use soap even on the face and hands with great moderation, if the skin be preserved from injury. A common evil result of a too-free use of soap in bathing is seen in the tendency on the part of many persons to take cold thereafter. The reason of this tendency is that the skin has been too thoroughly cleansed ; it has been denuded of its oily protection and defense against external agents. It seems, on the whole, that on ordinary occasions the child's bath should be water alone. Let soap be used only when necessary.

As to the mode of washing : Let the water be tepid, as has been said. A tub of sufficient dimensions to allow the immersion of the entire body of the infant is by far

the safest and most convenient method. The advantage of this immersion is that the whole body of the child is subjected to the same temperature, both during the time of bathing and in the subsequent drying and redressing. On the other hand, if the bathing be done by the application of water to the body by the hand or sponge, the alternate exposure of the tender and delicate skin to warm water and cold air will often be followed by serious consequences. The immersion is, therefore, to be preferred, both for its convenience and for the good of the child. While the child remains in the water, every part of its body should be carefully washed, so as to remove all impurities. A sponge or soft napkin may be used. When the cleansing is completed, the body should be wiped dry with a soft cloth, gently, but as quickly as possible, and the clothing replaced without delay. The child should not be allowed to dally with the water, as is too often done, nor to remain undressed a moment longer than is necessary.

The best time to wash an infant is in the morning, as soon as it is taken out of bed and before it has been put to the breast. If, however, the child be delicate, or if judgment or experience have shown that it should first be nourished, the bath should be deferred at least for an hour. This will give time for the digestion of the nourishment given. The bath should not come when the stomach is employed in the process of digestion. Before putting the child to sleep in the evening, and after it has been nursed for the last time, a gentle bath should be given.

Tepid water should be used, and the bath should not be prolonged beyond a few minutes. Two important ends will be gained by this evening ablution. The circulation of the blood will be provoked toward the surface of the body, which conduces to health and comfort, while a soothing effect to the nervous system will be imparted, thus insuring, or at least tending to insure, a quiet and refreshing sleep. To restless and irritable children, this evening bath is of the utmost consequence, and for the reasons named. It will be of benefit to the mother also in permitting her to take needed rest and sleep, unbroken and undisturbed by a wakeful or restless child. To secure the full benefit of sleep, the mother should be able to disencumber her mind of any thoughts of her child. She should be able to go to sleep with confidence that she will not be awakened, and that no necessity will arise in which she must soothe her child. Not many mothers are able to do this. During the first year of their child's life, it is never out of their mother's thoughts, sleeping or waking. The result is, that she does not sleep soundly nor refreshingly.

If the suggestion here made be heeded, and the rules laid down be observed, the results will be beneficial in almost every instance. Especially will it be so in the case of scrofulous children, or those constitutionally delicate. If, however, these rules be not observed, anything but good may result. If, in the evening bath, the water used be too warm, or if it be prolonged beyond the time indicated — a few minutes only — excessive sweating will be

induced. This will be followed, in all probability, by a cold. The opposition to baths on the part of some persons is based largely upon this tendency of the child to take cold subsequently. It is the testimony of all careful observers, that in the very large majority of such cases, the cause is found, not in the bath itself, but in its injudicious application, and in the non-observance of the rules which have been here suggested.

There are to be found physicians who recommend the cold-water bath for children. This will not do, as a general rule. In the large majority of cases, the warm bath is preferable. In the case of a child who has attained the age of three or four months, and is fairly strong and vigorous, the temperature of the morning bath may be safely and sometimes profitably lowered. This must not be done in any case unless it be found that the bath is followed speedily by a reaction in the temperature of the body. The cold water drives the blood from the surface. A natural reaction will follow if the child be strong enough in its vital organs to excite it. Such action and reaction are beneficial. When the reaction does not immediately follow, the cold bath must be abandoned at once.

In all cases of bathing it is important to remember that, before redressing, a gentle glow should be excited by friction. A soft, dry napkin or piece of flannel may be used, and the rubbing process be continued until the desired result is secured. This is both agreeable to the feelings of the child, and beneficial to its health. When the child is a few months old, and the weather is warm

and dry, it will be no injury, but rather a benefit to the child, if the dressing be deferred a little time. Allow it to gambol freely about. If the child show signs of enjoyment, it may be set down that it is being benefited ; if, however, the child take no pleasure in its romp, or show an indisposition to avail itself of the privilege of unrestricted ambling, it is evident that no benefit is accruing, and the redressing should proceed as soon as possible.

On the general subject of cleanliness, it is necessary to insist that care be given to the coverings of the child. Every damp or soiled part of this covering should be immediately removed, and the skin carefully washed of every vestige of impurity arising from natural evacuations. In early infancy these evacuations are frequent and involuntary. If the nurse be attentive, she may very soon be able to forestall them.

What has here been said of baths and bathing in the case of the infant, will apply in a general way to every period of childhood. It will generally be found advisable to reduce the temperature of the bath with the increase of the age of the child. When it reaches its second year, this temperature may be so reduced that a feeling of coldness is imparted to the skin when the bath is first entered.

Clothing of Infants.

In adverting to the subject of dress, the purpose is not to discuss it from the standpoint of fashion or elegance. With these phases of the question, this work has nothing

to do. But, so far as the clothing of the child may affect its health and comfort and no farther, does this subject become one for thought.

In the dress of infants, three important particulars are to be considered — lightness, softness and warmth. Each of these qualities must vary with season and climate. All infantile garments should be constructed with due regard to ease and facility in putting on and taking off. There should be the aim, too, to give ample protection to all parts of the body without in any way interfering with full and free action. If the child's dress meet all these ends, the mother's sense and wisdom cannot be questioned, even though there may be errors in taste and style. She has provided well for her little one, and its comfort and healthy development will abundantly repay her.

Whatever may tend to compress the body or to restrain the free use of arms and legs should be avoided. All such restraint is deleterious to the present comfort of the child and to the proper growth of these members. If the child be born in the winter when the weather is severe, or if it be born prematurely at any time of the year, soft flannel is the best material for all parts of the dress which come in contact with the skin. This fabric not only affords the best protection, but acts as a gentle stimulus to the skin, and thus tends to prevent congestion, inflammation and troubles of the bowels, to which all delicate children are subject. It sometimes is the case, however, that flannel garments irritate the skin, or produce excessive perspiration. In such cases cotton or linen material should be

used, and the precaution should be taken to warm the garments before dressing the child.

With regard to the outer clothes, no rules can be laid down which would meet every case, or even be of much value. The good sense and judgment of the mother will be the best guide with regard to these. It is important to remember that nothing must be allowed upon the child which may interfere with the free exercise of its limbs. Nor must there be any compression of the lungs or bowels, if these organs are to develop properly and perform their designed ends in contributing to the general health of the child.

Comfort is to be an important consideration in constructing the child's clothing. It must not be forgotten that children may be uncomfortable in an atmosphere, hot or cold, which the adult does not consider at all hot or cold. This is caused partly by the fact that the generation of animal heat is not so active in the infant as in the adult; consequently, its natural lack must be compensated by covering. On the other hand, wrapping too closely or confining to an over-heated or ill-ventilated room, is both a discomfort and an injury to the child, and should be avoided.

The common custom of dressing infants in long robes is not objectionable, inasmuch as these have a tendency to protect the body and the lower extremities from draughts of cold air. If the weather be very cold, an additional protection for the feet becomes necessary. Stockings and shoes of soft wool are the best. Heavy covering for the

head is not required. The custom of providing infants with warm caps has been, happily, almost entirely abandoned. Unless the weather be very severe and the room difficult to keep at even temperature, nothing at all is required in-doors. If the child be taken out-doors, its head should not be bundled up extravagantly. It will be better for it if only sufficient covering be put on the head to insure reasonable comfort.

Dr. Verdi, in his work, "Maternity," very aptly says: "We all like to see children looking pretty, cunning and attractive. The vanity of mothers does a great deal toward the attainment of this end. Let us commence from the period when a girl baby leaves off her long robes for short skirts. The mother will take care that the baby's chest is well covered; the pretty limbs, however, will be exposed, the little stockings short, and the drawers made of cotton or linen, but thin. If the child goes out, 'Nurse, put a sacque on the baby and do not let her go out without her hat; it is cool to-day,' will be said. Unless it is decided winter, no additional clothing is suggested for her limbs or abdomen." Such inequalities in the dress of the different parts of the body lay the foundation for disease; it should upbraid every mother who has allowed her pride to blind her judgment to the proper dress for her child. More than that, the child being helpless, the mother is morally guilty of a crime against her offspring. Motherhood lays upon her a responsibility which she cannot set aside. No considerations of a present tasteful or beautiful sight can excuse the responsible

cause of that child's after-pain and discomfort — perhaps untimely death.

Sleeping.

During the first months of the infant's life, the powers of its system are wholly occupied in carrying on digestion and growth; consequently, its time is divided between sleeping and feeding. It is seldom, if ever, awake. It may and does occasionally open its eyes, but its consciousness is not sufficiently active and distinct to warrant a use of the term wakefulness, in any proper application of that term. The point of concern during this period is not when or how long it sleeps; it is how it sleeps. The physician is often asked by mothers: "Shall the baby sleep in a cot of its own, or shall it sleep in its mother's arms?" There is but one reply to make: "By all means in its own cot." Care must be taken to have this cot supplied with sufficient light covering to preserve a proper degree of warmth, and it should always be artificially heated before the babe is laid upon it. For the first month, at least, the cot should be protected from any strong light. This can be done either by darkening the windows, or, if this be not desirable, by surrounding the bed with curtains. If the latter method be used, the curtains must be laid aside as soon as it is safe for the child; their presence interferes with the free circulation of the air, and abundant and pure air is of paramount importance to the child. Care must also be taken to have the cot so placed that it shall not be in a direct cur-

rent of air. The system is more susceptible to cold while sleeping than while awake.

Nutrition and sleep thus occupy the first months of the infant's life. It awakes only to feed, and, having received the desired nourishment, it falls asleep again. As the organism develops, the desire for activity increases, and that for sleep diminishes. The prudent nurse or mother will act most wisely when she studies to follow the teachings and promptings of Nature. This will induce her to endeavor to remove any chance impediments that may come in the way of this natural order. Regularity in the hours for sleeping and waking should be observed as far as possible. In the animal economy there is a periodicity which is adapted to that of physical phenomena, and which tends to bring about a recurring state of the system at regular intervals. This law should be observed with regard to the nursing and sleeping of the growing child. Unless such regularity be established and adhered to, neither mother nor child will be permitted to enjoy the undisturbed repose which is so essential to health. The mother who encourages her child to start up at any time of the day or night and demand the breast — or who is continually offering it whether the child be hungry or not, simply to soothe its cries — need not be surprised if continual restlessness and discontent follow. This condition once established as a fixed habit, the mother's peace and comfort, as well as the child's health and general well-being, will be sacrificed. She may be able for the moment to quiet the child by this means, but it will be at the expense of ultimate trouble and disappointment.

In every effort to train the child to regular hours for eating, sleeping and other natural operations, it is advisable that the natural time for these be considered. The night is the time appointed of Nature for sleep. There is a natural tendency to sleep at that time. Nothing should be allowed to come in the way of the child in yielding to this inclination. But to children under two and three years of age, more sleep is demanded than that afforded in the night. All children, with rare exceptions, incline to sleep from one to three hours during the day. Keeping in view the general principle already laid down, the care of the mother should be to train the child to regularity in this day sleeping. The middle of the day is the better time for this sleep, and this should be the time chosen for it. The mother will find some opposition on the part of the child, owing to its natural restlessness and activity; but, by judicious and systematic management, she will soon find it ready to adapt itself to her wishes. If the time for this sleeping be deferred until later in the day, it is likely to produce wakefulness at some time during the night. This midday rest, even if it be continued with children until they are four or five years old, will prove of great advantage. This is especially true of nervous children.

Two things should always be excluded from the nursery — namely, light and noise. The presence of these may not prevent the children from sleeping, and may apparently work no injury. But they are injurious. They tend to render the sleep troubled and unrefreshing by

rasping on the nervous sensibilities of the sleeper, and may lead into that condition in which the child is susceptible to spasmodic and convulsive attacks from any accidental irritation. Sleeplessness, more than anything else short of actual sickness, is greatly distressing to the anxious mother and annoying to the impatient nurse. A healthy child, if properly treated and not unduly excited, will always be ready for sleep at the regularly appointed time. When such a child is not, but is restless and excitable, there is a cause. This cause should be inquired into carefully, and, when found, it should be removed. In many cases, the cause may be outward and manifest, in which cases there are no difficulties in dealing with it. When no cause can possibly be found which would lead to the wakefulness, it is safe to infer that the child is not well. Professional counsel should be taken and such remedies employed as will restore the normal condition, when in all probability the sleeplessness will disappear.

The practice of many mothers in administering laudanum, paregoric, or some of the many patent "soothing syrups," is most pernicious, and cannot be too severely condemned. Several years ago a physician was visiting at the home of an old friend. He there met a daughter of his friend who was also the mother of an infant a few months old. He observed that the child appeared delicate, fretful and nervous, crying the most of the time it was awake. The mother, too, was careworn and haggard from watching and anxiety. He said to her: "Your child appears to be very troublous, nervous, restless and ill-

disposed to sleep." The mother replied that" It was so almost from its birth, and I believe it would never sleep if I did not give it soothing syrup." "Have you been giving it this syrup all this time?" was asked. "Oh, yes," replied the young mother, "I am now on the seventh dozen of bottles." "Well," replied the physician, "I am not at all surprised that that child is peevish, delicate and sleepless. The only real thing to be surprised at is that it is alive." He then took occasion to show the folly and danger of the course she had been pursuing, and counseled her to stop giving the drug at once; to give it better nourishment and general care. The advice was followed, and in less than a fortnight the child was sleeping naturally, and the whole household relieved of the annoyance of its restlessness as well as of constant anxiety on its account.

This mother was like many others. Instead of seeking proper medical advice when her child first showed symptoms of fretfulness, she yielded to the ideas of some one more foolish than herself, and began a course of giving temporary relief at the expense of Nature. There was only one ending. The child would surely have died under its treatment, or it would have grown up with a shattered constitution, perhaps with health hopelessly ruined.

In infancy, as well as in adult age, health and healthful repose are insured by having the sleeping robes and the bed-clothing fully aired each day. As soon as the child is taken from its bed, the bed-clothes should be exposed to the air and allowed to remain so for several hours. Greater importance attaches to this simple sanitary mea-

sure than is generally thought. Clothing so aired and purified has a soothing effect which conduces to sounder and more refreshing repose, and this will speedily show itself in the improved health of the child.

Rocking or Exercise.

It has already been said that it is better for the child, better for the mother, that the former should occupy its own cot. It is proper to inquire a little concerning this cot. Shall it be stationary, or shall it be supplied with rockers, so that it can be moved to and fro? Common custom, followed from where memory runs not to the contrary, decides for the rocking-bed. To what extent the rocking should be used is a matter requiring some judgment and discrimination.

In infancy, as well as in all other periods of life, exercise is essential to health. An instinct prompts the child to crave this exercise, and to give evidence of its craving at a very early age. It requires a prudent caution on the part of the mother that this exercise be properly regulated. The delicate state of the child's organism must be kept constantly in view, as well as the laws under which the chief functions of this organism operate. If this be not done, there is danger that the bones and muscles of the little frame may be called upon to perform duties out of all proportion to their strength. It is a fact, of not infrequent observation, that the infant is subjected to such dangling and rocking as to produce serious injury to its organism, and to indirectly cause much care and trouble to the mother or nurse.

When, as is often the case, the crib is kept in continual motion, jostling the child from side to side — a motion which to an adult is an exercise so unpleasant as to frequently cause nausea — it becomes a serious question whether or not the cot should be without rockers altogether. It will be argued that the child itself decides for the rocking, since it awakes or becomes restless and peevish the moment the motion ceases. This may be admitted, but the admission does not settle the question conclusively. In this, as in everything else pertaining to the child-life, the swaying motion is likely the result of education and habit. It is possible, and indeed quite common, for the child to be kept under a peculiar degree of excitement until unrest and discontent may be the only qualities developed in its nature. When in such a state, its demands can never be satisfied. The more the concession that is made, the greater will be the demands. The too-indulgent mother, in yielding to the whims and caprices of her child, is contributing actively and passively to the further development of the evil propensities.

Exercise is undoubtedly necessary to the well-being of the child; but this exercise must be judiciously administered. The principal purpose always, in every period of life and state of development, is the good of the child. The mother is the teacher, not the pupil of her child; its master, not its willing slave. She should decide what is best for it, and so train the child that it will accept what is done for it. The first exercise of the little being should consist in journeys about the nursery or in the open air,

if the temperature be at all moderate. In addition to this, let there be a gentle friction with the hand over the entire surface of the body and limbs. This, on trial, will be found to be an operation quite agreeable to the child. It is no less beneficent in promoting a free and equable circulation.

Parents are sometimes fond of exciting their children to muscular activity out of all proportion to the age and strength of the tender frame. They sometimes do this through a mistaken notion of the hygienic laws of natural development; sometimes for no reason whatever save their own amusement. It tickles their pride to see their children able to perform prodigies of muscular activity impossible to other infants of similar age and size. They consider it an evidence of the superiority of their child's constitution. Whatever may be the reason, whether ignorance, false knowledge or pride, it is exceedingly foolish and culpable. Instead of laying the foundation for a future of health and strength for the child, they are undermining the very sources of its strength. They are dwarfing its physical constitution and seriously, perhaps fatally, ruining its health.

Very much active exercise is not favorable to the proper development of the tender infant. Such passive exercise as has been suggested is eminently favorable to it. It is especially desirable that the child be given the benefit of the invigoration of out-door exercise as far as practicable. If it be born in the spring, summer or early in the autumn, it need not be confined to the nursery

longer than a fortnight. It can be taken out, care being used to accustom it to the out-door air gradually. Fifteen or twenty minutes are sufficient time for the first airing, and the time may be extended as it becomes more inured to it. If the child be born in the winter, it should not be allowed outside the equably-tempered nursery until it is six weeks old, and then only in very favorable weather. The child, like the adult, is seldom injured by too much time spent in the open air; the injury, when injury is wrought, arises from improper exposure to the air. The child is not essentially different from the adult. On the contrary, it has the same nature and is amenable to the same laws. Going suddenly from a warm, close room into a raw atmosphere, is attended with serious risk to health at any time of life. The best general direction for the mother to observe is to remember that the child is like herself, only very much more susceptible to atmospheric influences. She should care for its health as she cares for her own, only much more minutely and tenderly.

Feeding or Nursing Infants.

It has already been said, that for some time after birth the infant is occupied wholly in taking nourishment and in sleeping. Its system is called upon to perform no other demands than those concerned in nutrition, digestion and excretion. As soon as those organs which are most immediately essential to life are in active operation, the imperative want is for a regular supply of the material by

which the nutrition and development of the body are supplied, and the constant waste of the system repaired. As soon as the infant awakes from its first sleep, it gives evidence of the possession of an appetite and craving for food. It instinctively appeals to the mother to satisfy this craving. This is the case with all animals. As soon as the machinery of life is fully started, a natural instinct impels them to seek for that which will keep their machinery in motion. The new-born child conforms to the general rule.

It is, manifestly, the first duty of those in attendance upon the child to see that this natural desire is met. As soon as the mother has sufficiently recovered from the exhaustion following the labors of birth, the child should be put to the breast. The mother will, in all ordinary cases, be able for this in an hour or two. At first the secretion of the breast will be of a thin and watery consistency, limited in quantity, and bearing little apparent resemblance to milk. In a few days, however, the quantity becomes more abundant and more rich and nourishing in quality. All this is entirely natural. Nature knows exactly what the infant demands, and has so arranged the functional operations of the milk secretion of the mother as to exactly meet this demand.

When the child is born, its bowels contain the dark and slimy meconium. This has heretofore served a useful purpose. But the retention of the meconium longer will certainly prove hurtful. The natural operations of external and independent existence must now begin, and

a necessary preparation for these is the expulsion of this meconium. For this end, nothing is so good as the first secretion of the mother's breast. No aperient can be substituted for that which Nature has provided that so well or so safely meets the case. The bowels are dormant, and must be stimulated to action. But there is risk, if this be done by other means than those which Nature has provided for the purpose, that there may be undue irritation. It rarely happens, when the infant is put to its mother's breast at the first opportunity, as indicated above, that the bowels are not thoroughly cleansed and in normal activity in a day or two.

The custom of some nurses to commence dosing the babe, almost as soon as it is dressed, with various kinds of teas, is wholly unnatural and consequently pernicious. It is unqualifiedly condemned by all reputable physicians. It should never be followed except on the advice of the physician. There are cases where Nature must be aided; but no one should undertake to decide that such a case exists until a competent physician shall have been consulted. The custom arose in ignorance of the purpose and sufficiency of the natural means for meeting the end desired. The necessity for the evacuation of the bowels of the meconium was recognized, but that the mother's milk was all-sufficient for this was not recognized. Unquestionably there are cases where Nature must be aided in this operation, but such aid should never be undertaken unadvisedly.

The general rule is as stated. A constituent element

in the first milk of the mother is a laxative, gentle but active, sufficiently mitigated to be adapted to the delicate constitution and organism of the child. It may be said that infants are not alike when born. True enough ; but it is equally true that every woman is the mother of her own child. It is a part of herself. It partakes of her nature and characteristics. The same natural provisions which enabled the mother to conceive and bear her child also operate to bring about the proper harmony between the mother's milk and the demands of the child. The objection does not hold. If, then, Nature be unnecessarily assisted in the first evacuation of the infant's bowels, there is a double risk incurred. The intestines of the child may be irritated by excessive purgation, and the mother may suffer from the unrelieved distention of her breasts. From the latter cause, there not infrequently arises inflammation, painful and dangerous, and perhaps an abscess still more painful and dangerous.

It is sometimes the case, owing to the mother's constitution or imperfect health, that the secretion of milk is deferred so long that other nourishment must be given the child. This delay is generally traceable directly to previous inattention to the proper hygiene which the mother's condition required. Of course this cannot be remedied now. The child is born and must be attended to without delay. It is advisable always to put the child to the breast, even though the mother have nothing to give it. Nature in the mother needs to be aided and stimulated. It will be found, in the majority of instances,

that the solicitation of the child at the breast will bring about the desired results in a very short time. When this fails, as it will in some cases, and the mother has nothing whatever for her child, there is but one course to follow: the child must be fed artificially. When this has to be done, it is wise to remember that the best results are secured when Nature is most closely imitated. That is to say, the milk provided for the infant's sustenance should resemble, as nearly as possible, that which would have been supplied by the mother.

Food of Infants.

It is now generally agreed that, during the first six months, at least, no kind of food is so congenial to the infant, none so well adapted to the necessities of its developing organism, as its mother's milk. Between parent and child there is an intimate relationship of blood and constitution, which, during health, adapts them to each other with a harmony and completeness that can scarcely exist between the infant and any other woman. The mother, therefore, is peculiarly bound by every tie of duty and affection to become the nurse of her child; nothing but ill-health and positive inability can excuse her for imposing this duty upon another. It is common in fashionable society to consign, for no good and sufficient reason, the infant to the breast of another. This is a physical injury to mother and child alike. The best medical authority, the strongest reasons, and the highest instincts and feelings of humanity unite to urge upon the

mother the duty of caring for her own offspring, and nourishing it with the sustenance which Nature supplies through herself.

A feeble constitution or impaired health will sometimes compel mothers to resign this duty to others, however much they may desire to do it themselves. When, therefore, from any cause it becomes necessary to furnish sustenance to the child from other sources than its mother, the best substitute possible should be secured. The best undoubtedly is the breast of another woman whose condition is similar to that of the mother. Such a substitute is not always available. In rural communities and sparsely-settled districts, it is rarely so. What then ?

The most common resort is cow's milk. It is the most readily obtainable and in many respects is excellent. Ass's milk is still better, if it can be had. It is stronger in saccharine constituents, and when used should be diluted with water to about double its volume. If cow's milk be used, a small quantity of sugar must be added to bring it to the degree of sweetness possessed by human milk. The ass's milk, even with the addition of fifty per cent. of water, is much sweeter than that of the mother. A few teaspoonfuls may be given at a time and at sufficient intervals until the mother is able to nourish. A nursing bottle should be used. It is the more convenient way, and comes nearest to the natural method instinctively adopted by the child.

Milk given in this way is decidedly preferable to any

kind of gruel, tea, or any of the preparations commonly known as "infant's food." At this tender period, the digestive organs are not prepared for the reception of any sort of vegetable food; when it is given, it seldom fails to irritate the stomach and bowels. Cow's milk, diluted and sweetened properly, is nearly the same in composition as that obtained from the breast of the mother. It is, consequently, a very good substitute for it. An ounce of milk thus prepared is a sufficient quantity to give at one time, and the allowance should not be repeated oftener than every two hours. An ounce of milk well digested affords more real nourishment than double that amount crowded into a stomach too feeble to digest it.

How often should food be given? It is of first importance to the mother that she guard against hurtful excess in the matter of nourishment. There is greater likelihood of giving too much milk and too frequently than of the opposite extreme. The direct effect of too-lavish nursing is that it introduces a quantity of milk into the stomach beyond its capacity. The stomach thus becomes distended and the digestive powers are impaired. From this condition griping and flatulence follow, very much to the discomfort of the child. The common practice with inexperienced mothers is to offer the breast whenever the child may cry or show uneasiness. The breast is the panacea for all infantile ills, no matter from what cause they arise. It seems to be taken for granted that hunger is the only possible sensation of the child, and nursing the

ever-present and ever-potent cure-all. Such indiscriminate nursing is exceedingly unwise. From the earliest infancy regular periods should be observed for nursing. To those who have not followed such rule, it will be a surprise to see how soon the child will accommodate itself to such regularity. It will certainly require some little time, trouble and patience to train the child to habit in this regard. But the repose, both to child and mother, during the intervals, will amply repay all outlay of time or trouble. Such repose is eminently beneficial to both.

It is the greatest of mistakes to treat crying as an infallible indication of hunger. On the contrary, this is the only method known to the child of expressing discomfort from any cause. The delicate organism of the child receives unpleasant sensations from any positive manifestation of the external world. Heat, cold, pressure, hardness, hunger, repletion, light, noise — all affect it unpleasantly, unaccustomed as it is to the world and its objects. When so affected, it cries. It knows no other way of expressing itself. If it be hungry, it cries ; if it be over-fed, it cries : if it be pricked by a pin, it cries. So, also, if it lie too long in one position, the pressure upon that part of the body becomes annoying and it cries. If it be exposed to heat or cold beyond what its delicate frame is accustomed to, or if its clothes be too tight, it cries. From these and a multitude of other causes it is inconvenienced, and for each and all of them it expresses its discomfort by the same token — it cries. Ignorant nurses and inexperienced mothers have but one sovereign remedy for crying. No

intelligent inquiry is made as to the cause of the crying, nor effort made to remove it. No, the child is at once put to the breast or the bottle as the sovereign balm, the sole remedial agent.

Most mothers labor under the conviction that whenever a child cries, the first and most important thing is to stop the crying. This is not the case. Crying is not necessarily injurious to the child. On the contrary, it is often a benefit. It is a provision made by Nature for indicating discomfort, and at the same time it serves as a vent for the pent-up emotions. Adults often find relief in a flood of tears from a burden of grief that has long oppressed the heart. To some extent this is true of children, only that in the case of the latter, the ills are always of a purely physical origin. As they grow older, they are grieved and hurt in their intellectual and emotional natures, and still give expression and find relief in crying. In the case of infants, it is only when crying is oft-repeated or long-continued that it is really detrimental.

There are two kinds of crying, and the intelligent mother will soon learn to discriminate between them readily. It must be confessed, however, that some very good mothers never learn to distinguish these — always confound them, or treat them as identical. The cry of the infant, as has been said, is its signal of distress; the only means known to itself to ask for relief on such occasions, is easily distinguishable from the wail which betokens real disease. There is a great difference in the tones of the adult confined to his bed from some ill which affects

only one portion of the body, as a wound, a cut or a broken limb, and in those which come from the same person when a disease which affects his whole system confines him there. There is the same difference in the cries of the infant when pricked by a pin, oppressed with its clothing, heat, cold or over-feeding, and when it is in the grasp of some infantile disease which produces keen suffering with attendant danger.

The infant requires to be fed during the night as well as during the day, but not so frequently. At the first, three times are amply sufficient for its good and that of the mother. In a little time, twice or even once during the entire night, will be enough. The habit of some mothers of allowing the child to lie all night long on the maternal arm, with mouth to the breast, is not only greatly exhausting to the mother, even though she have the greatest robustness, but is detrimental to the highest good of the child. If the mother be delicate and yet able to nurse her child with ordinary care of her health, she should be allowed undisturbed repose during the night. The care of the child should be given to the nurse entirely. By this means, the mother will be enabled to nurse during the day, and both she and the child will be better for the temporary separation. If, however, she attempt to nurse when she may be physically unfitted for the drain on her system, she will do the child no real good, and is liable to permanently injure her own health. Nothing is more essential to the well-being of a child than that its mother should enjoy the most perfect health attainable. To secure

and maintain this, the mother must deny herself the grati fication, at times, of coming to the relief of her child. This task must be relegated to another. No wise, prudent, thoughtful and far-seeing mother will allow herself to become the slave of her child. It is her natural and reasonable duty to be the teacher and master of her child. She should set rules for its conduct, not govern her own conduct by its whims and caprices. She should compel it to obey her will rather than allow herself to follow its dictation. It is not unnatural selfishness, but a wise and prudent forethought which determines a mother to look after her own comfort and well-being, as at least equal to the claims of her child upon her.

The Nursery.

Investigation has been made, at some length, into the peculiarities of the constitution of the new-born infant, the proper management of this infant at its birth, the best modes of caring for it in giving nourishment, and the dangers to be avoided in this regard. It is now proper to advert to the surroundings of the child during its earlier years, and the influence which these surroundings have on its healthful development. Experience has indicated the circumstances and appliances which tend most to good results. Some of these have a marked influence, not only on the present comfort and health of the child, but condition to a large degree the status of its future.

With regard to certain of the external influences, such as the locality in which the life is passed and the air

breathed, the action upon the infant constitution is so decided and invariable that no difficulty is experienced in laying down rules and regulations. Other surroundings, such as food, clothing, exercise, vary so greatly in their effects by reason of age, robustness, inherited constitution, etc., that no general and invariable rules can be formulated. A great deal of discrimination must be exercised, and many of the best suggestions in one case must be modified when applied in another. Very often it will be of greatest importance that the counsel of the medical attendant be secured, in order to determine how such surroundings may be regulated so as to secure the highest benefits. As many of the conditions of infantile health are more or less connected with the nursery, it will be convenient to treat all of them under this topic.

A nursery, well-arranged, well-situated, and well-managed is of far more importance to the health of the infant than is generally conceded. The reason of this is that the nursery combines within its range, various agents which are constantly, though silently, affecting the constitution and exerting an influence for good or evil upon the whole physical economy of the child. In the climate of our country the infants of the middle and higher classes of society must be kept within doors perhaps twenty of the twenty-four hours of the day. When this is considered, the importance of having the purest air attainable in the room in which this time is spent, becomes evident. An unsuitable situation or imperfect house-accommodation often gives rise to local influences under which infantile

health succumbs. On the other hand, in favorable surroundings, delicate infants may, and often do, grow into healthy adults. In the government of large cities, inquiry is directed to the sanitary accommodations of the inhabitants, and certain rules are laid down, by the observance of which the general health is greatly improved.

It may be objected, perhaps, that among the poorer classes, and even among the less wealthy of the middle ranks, necessity and not suitableness must determine the choice of a home location and the appropriation of the rooms of this home. Admitting this, it is still worthy of consideration that the local conditions and domestic arrangements most conducive to health be well understood. Even among the poorer classes there are few who, once convinced of the existence of an evil, would not be ready and able to do something toward relieving the disadvantages under which labor their children and themselves as well. At the worst, they may be able to choose between a greater and a lesser evil. If they are obliged to reside within a certain distance of their place of working, they may still have it within their power to choose between a bad and a worse locality, a better or a worse house in which to dwell. Before such choice can be made, the influence of surroundings upon their own and their children's health must be understood.

Light and Air.

The first and most essential requisite in a nursery is a constant and abundant supply of fresh air. To obtain this, a house should be selected, if possible, in a dry and

rather elevated situation, sheltered from the violence of the wind and sufficiently removed from all sources of contamination. A residence in the open, free country is better, in this regard, than one in a city or village. The close proximity of trees and dense shrubbery, of ponds, undrained fields, or sluggish water-courses should be carefully avoided. However ornamental such trees and shrubbery may be, they are invariably prejudicial to health. Narrow valleys and localities shut in by thick groves, or overhung by high hills, should never be chosen as the site of the home, nor the location of a village. From overlooking the influence of stagnant, humid air, families going to the country in pursuit of health often sustain serious injury by settling in localities that a little previous knowledge and forethought would have enabled them to avoid.

A good exposure is an important consideration in the location of a nursery. In a cold and uncertain climate like that which is found in many parts of our country, a southern aspect is very desirable. It is warmer and more cheerful every way, and is more available for the reception of the sunlight, which as a gentle and wholesome stimulus to health and growth, is scarcely less important in animal than in vegetable life.

A situation with a bright and cheery outlook is particularly desirable. Such a prospect operates powerfully on both the health and character of the child. It is one of those intangible agencies which go on from day to day working out a great change in the very nature of the child.

It is quite difficult to tell how this is done ; it is enough to know that it is done. The budding nature of the infant or child is very susceptible to the subtle influences of natural objects. If these be bright and cheerful, the nature will develop into a bright, cheerful, hopeful, optimistic caste which will shed its brightness and happiness all along the course of life. A heavy, dead, dreary landscape, constantly displayed before the plastic mind, cannot fail to leave its impression.

There are many other things in the location of a home which have an important bearing upon the health of the children which may be reared in it. The salubrity is conditioned, to a considerable degree, upon the character of the soil and the sufficiency of the drainage. A dry and gravelly soil is much more likely to possess these requisites than any other sort. All these matters of minor detail should not be overlooked, where the opportunity for making choice exists, because they all may have an important bearing on the future of the family. There are many homes scattered all over this country from which some children have been taken away in death. In many of these cases, no doubt, the cause of the death of the little ones existed in some sanitary imperfection in or about the dwelling. Where a human life is the consideration, nothing is too small or too insignificant for careful attention.

In selecting rooms for the nursery, those having a southern exposure are preferable, and this for the reason already given, that sunshine is an important factor in

giving and maintaining health. That the room should be large, easily warmed and ventilated will be readily admitted. Without such conditions, it will be next to impossible to surround the infant with that pure and invigorating air so indispensable to good, healthy life. In one respect pure air is more essential to the formation of good blood than proper food, and that is, that the influence of the air upon the blood is constant ; it never ceases for a single moment during life. By night and by day, sleeping or waking, respiration goes on, and every breath is fraught with benefit or injury, according as the air inhaled may be pure or vitiated. It is no wonder that a cause thus operating so unremittingly should, after a lapse of time, produce a marked change in the condition of the whole system. Of all the injurious influences by which childhood is surrounded, none operates more profoundly or with greater certainty than the breathing of vitiated air. On the contrary, few things have such an immediate and decided effect in restoring the health of a feeble child as a change from an impure to a pure atmosphere. Bad food and bad air are the natural parents of that greatest scourge of the human family, scrofula. Either of them may cause it, but when both are combined, as is often the case among the poor, who are crowded into the narrow alleys and cellars of our great cities, there will scrofula be found in its worst form. Among certain of the lower animals, as the sheep, a scrofulous condition can be produced at will by simply confining the animal to an impoverishing diet and in a place where it must constantly breath a contam-

inated air. The same is true — must be true — of human beings.

Temperature.

After suitable food, pure air and abundant sunshine, the next important provision for a good nursery is a regular temperature. Its importance consists in the fact that, like the air breathed, it is a constant agent. The atmosphere of the room for the first few weeks should never be allowed to fall below 65 ° Fahrenheit. For the first few days it may safely and properly be raised to 70 °. When such a temperature is maintained, careful attention should be given to the ventilation. Excessive heat without proper regard to ventilation is not to be allowed at any time. An open fire-place, where it can be had, possesses a decided advantage over any other mode of heating, on account of the ventilation thus secured. In some other regards, it is not so desirable. By the constant rush of fresh air to the fire, cold draughts from the doors and windows are created. These air streams are many, and it is next to impossible to prevent the infant from coming in contact with some of them and from suffering inconvenience thereby. This danger may be averted to a considerable extent by so placing a large screen that it will intercept these air-currents, and so distribute the continual increase of fresh air that its effect will not be felt in any one place so decidedly as to be injurious.

This fire-screen is all the more necessary when the temperature of the external atmosphere is considerably

below that of the room, as in the winter season. At such times every opening of the door will admit a rush of cold air, not enough to inconvenience an adult in good health, but quite enough to be dangerous to a delicate child. A wire-screen should also inclose the fire-place as a protection against accidents, when the child becomes old enough to move about by itself. Its eyes should at all times be guarded against the heat and glare of a bright fire. Serious inflammation is often traceable to this cause. The same precaution should be taken with children as with infants in this particular.

An over-heated nursery should be avoided as much as one that is too cold. When the temperature is habitually too high there invariably follows a relaxation of the nervous system with an attendant excitability. This tends to the development of irritative and convulsive complaints for which children have a natural disposition, and which so frequently lead to a fatal termination. An additional risk incurred by keeping an abnormally high temperature in the nursery is the effect of a sudden transition when the child is taken out of the room. The frequency of inflammatory diseases among children arises mainly from causes like those given. The natural tendency of the human economy is to accommodate itself to its surroundings. If a child be kept for the greater part of the time in a room of high temperature, it logically follows that its own powers of generating heat will be kept dormant. If it be taken for the remainder of the time into a temperature much lower, there will be a greater liability to suffer than

if it had been kept all the time in an atmosphere of much lower temperature.

From what has been here said, it must be apparent to all that there are few things of more importance to parents than a thorough understanding and application of the hygienic rules in the care of their children. The well-being, and often the very life of their children depends largely upon the intelligent application of these laws. They are all founded in Nature and approved by reason and common sense. But reason and common sense are not adequate, in every case, to a ready interpretation of Nature and her teachings. It is advisable always that those upon whom the responsibility of other lives rests should carefully study the recorded experiences of those who have made intelligent study of the laws of health.

Weaning.

The weaning of the child, by which it is taken away from its dependence upon its mother for sustenance, is an important epoch. It is not, however, a matter of so much concern nowadays as it was formerly.

The time of weaning ought to be determined chiefly by two circumstances — the condition of the mother, especially her health, and the development of the child. When the health of the mother continues robust and the supply of milk is abundant, the weaning should take place when the child is ten or twelve months old, provided it evidences, by the development of its teeth, that such a change is proper and safe. In delicate children, teething

is often delayed longer than this by several months. When this is the case, the weaning time should always be deferred until the child is better prepared for the change in its life. There are occasional instances where the first teeth do not appear for a year and even beyond that time, and yet the child is not noticeably delicate. This is, ordinarily, a family peculiarity.

The general condition and development of the child, rather than the state of its teeth, should determine the time for weaning. In weak, scrofulous children the teeth are very often late in appearing. This may be taken as an indication that the breast should still be the chief source of nourishment, whatever the age may be. If, however, the child do not appear to thrive as it should, its nourishment should be supplemented by some such diet as chicken-broth, given once or twice a day. If it improve under this regimen, it may be taken as an indication that weaning may be begun ; also, that the better way will be found in a gradual leading away from the dependence upon the mother. The weaning process will be longer, but it will be safer and better for the child. The reference and suggestions here are to the exceptional cases, which, however, are not infrequent.

If, before the expiration of the usual period of nursing, the supply of milk be insufficient for the demands of the child, and the health of the mother evidently suffer, it becomes necessary, for the sake of both mother and child, that the weaning shall be gradually begun even before there is any indication of the teeth appearing. In a case

like this, the premature weaning is a necessity, and the exception to the rule is insisted upon only on the ground of necessity. Here, as everywhere, necessity knows no law. It is a choice between two evils. To defer the weaning is to invite greater danger than to precipitate it. In this exceptional case, as in that noted above, the weaning should be a gradual process. A little nourishment should be given, and its effects upon the child noted. If there be no apparent deleterious results, the quantity should be increased by degrees, and the times of such feeding increased. It will thus be led away from its dependence upon the mother, and, when finally separated from her, the change will be so slight that its effects will not be noticed. Almost equal disadvantages attend a precipitated and a deferred weaning time. The development of the teeth and the general condition of the child should always determine the time, unless there be some peculiar circumstances in the case, of which the physician is the best judge. It is fortunate for the child if the weaning can be done in pleasant weather. It can then be kept much in the open air, and its nervous irritability, a common accompaniment of weaning, will be greatly alleviated thereby.

The one important rule in weaning is to accustom the child, gradually, to the use of other nourishment than that supplied by the mother. In former times the custom was to bring this about shortly and suddenly. Injury to both mother and child was not infrequently the sequel to such heroic treatment. The rule now is as stated. And

experience has proved that in all ordinary cases, the end reached by this gradual process is seldom attended with any inconvenience worthy of consideration. As soon as the front teeth appear, some light food should be given at from one to three times a day. As the quantity given is increased, there is a lessening of the desire for nursing. As this method is continued, almost a distaste for the mother's milk will be created in the increasing taste for other nourishment. When this state is reached, the complete weaning is comparatively an easy matter, and attended with little trouble to either child or mother. The weaning ought never to be undertaken when the child is ill. Not even when it is suffering from the nervous irritation consequent on teething. The risk of convulsions and intestinal disorders is greatly increased at such times. If at all possible, let a time be chosen when the child is in the best condition, and when the weather is favorable for the out-door exercise, as stated before.

After the child has been weaned, its principal food should still consist of liquid or semi-liquid substances. Let it be of the same kind as has constituted its supplementary diet for some time. No considerable deviation should be made in this regard until after the appearance of the eye-teeth. As growth continues, changes in the quality of the diet may be gradually made. An important matter to be guarded against is a too-plentiful or a too-frequent supply of food immediately subsequent to weaning.

Sources of Danger in Weaning.

One of the chief sources of danger at the time of weaning lies with the mother herself, or the nurse. It is the tendency to consider every cry of the child as an indication of hunger which it is her duty to immediately satisfy. Good sense and prudent judgment are necessary to restrain the mother from yielding to this impulsive instinct. If she yield, she is likely to unwittingly increase the natural irritability of the infantile constitution, until, by too-frequent feeding, indigestion is established and irritability propelled into disease. It certainly is trying to a mother's affectionate emotions to see apparent suffering in her child. It is a much more painful experience when she discovers that she has been instrumental in converting a temporary evil into a serious menace to the life of her child. It is entirely in the nature of things that the child should be irritable, peevish and complaining for a brief time subsequent to weaning. It is a great change to it, and, like grown people, it rebels against change. If it be rightly managed, this irritability will pass in a few days, and the child be as it was before.

When there is a marked increase of the appetite amounting to a craving soon after weaning, and when it is attended by an appreciable fullness in the abdominal region, attention should be immediately given. In general, this may be set down as a symptom of over-feeding, or of too-rich food. This, of course, is improper, and should be discontinued immediately. If persevered in the child's

health will suffer from intestinal irritation or inflammation, from which there will result a glandular enlargement. Following this, there will be diarrhea, or looseness of the bowels. Large quantities of indigested food will be seen in the excrement. The child will become feverish, grow more and more restless until its very life will be threatened. From this it will appear that the utmost care must be exercised in the quantity and quality of the diet allowed the child immediately after weaning. Over-feeding and over-rich diet are the two main sources of danger. It is rare indeed that evil is found to have been wrought by the opposite course. The child had better be kept a little hungry than that its stomach be overloaded.

Wet Nurse.

The choice of a nurse should rarely be made without the advice and sanction of a trustworthy physician. It is his province and duty to inquire carefully into the condition of the nurse's health. There are good reasons for believing that this most responsible duty is too frequently performed in a very careless manner. In many instances, the general appearance of the nurse is taken as a certain index of her suitableness. A decision based upon such deceitful data is not valuable. There may be constitutional defects in an apparently robust woman which render her the very opposite of a good nurse.

There are certain requisites which afford strong presumptive evidence of fitness ; these should always influence

the decision. Among these should be named sound health, good constitution and freedom from any hereditary taint, a moderate plumpness, clear complexion, bright, cheerful ways, well-conditioned eye-lids, red lips, without cracks or scurvy, sound, white teeth, well-formed and moderately large breasts, fair-sized nipples, free from sores or fissures. With all these qualities, it is still necessary to inquire into the condition of the physical functions in order to be sure that a plentiful supply of nourishing milk can be furnished. This may be done by examining the condition of the nurse's own child, to see if it be plump and healthy, or thin and delicate. The quality of the milk can be directly tested by observing its color ; it should be a bluish-white with a somewhat watery consistency. It should have a sweetish taste, and there should be an absence of unpleasant odor. If dropped into water, it should have a light, cloudy appearance, and not sink to the bottom in drops.

The best and most certain test, however, is that afforded by the nurse's own child. If the child be found healthy and cheerful, and clean and neatly kept, it is quite a good proof of the suitableness of the nurse. If, on the contrary, this child be found pale and sallow, peevish and fretful, or untidy, the evidence of unfitness is sufficient to warrant the rejection of the nurse.

Securing and installing a nurse, be she never so well adapted for her duties, does not end the mother's responsibility. It will devolve upon the mother to still watch over her child. She must see that its needs are attended

to with regularity and with a proper spirit. If she find that the nurse is regular in giving the child its nourishment, that she keeps it clean, and is kind and patient at all times, displaying no irritation and impatience when her own comfort is disturbed by the claims of the child, the mother can, to a large degree, dismiss her anxiety.

Dangers of Feeding Children.

Dangers of Feeding Children is so nearly allied to a previous subject, "Food for Infants," that many of the suggestions and admonitions contained in that chapter are repeated in this to impress on the mind of the reader the importance of these seemingly trivial duties.

Every child should, if at all possible, be brought up at the breast. It is Nature's way, and it is the best way. This cannot always be done. The mother sometimes dies, or is physically disqualified for nursing, and no suitable nurse can be procured. In such circumstances, there is no resource save in artificial nursing. This means of rearing a child should never be resorted to except where it cannot be avoided. It is never as good as the natural way, while frequently it is attended with serious risks. If the child possess a strong constitution and its general health be good, it will, in all probability, thrive under artificial nursing. But if it be delicate, the chances against its survival are very great. Few children prematurely born can be reared by artificial nursing. If, in addition to a delicate constitution, the child suffer from irritation of the stomach and bowels — as is the case

almost invariably — the difficulties and dangers are augmented. The nature of the climate and the season of the year, too, greatly affect results in nursing children by hand.

Under the most favorable conditions possible, the artificial nursing of children is attended with grave risks. The disadvantages are so great that nothing but the most careful management, the most judicious and untiring attention on the part of the nurse or mother, combined with constant vigilance and the sacrifice of much time, can overcome them. In favorable circumstances, however, many children are reared in this way, and become strong men and women. If it were possible to always secure these favorable conditions, it would not be necessary to inveigh so strenuously against the artificial method.

When a child is to be reared by artificial nursing, it will be necessary to determine the kind of nourishment best adapted to this end, and also the manner in which this nourishment shall be administered. This subject has already been treated somewhat in detail; it will suffice in this place to recall that the principal thing to be aimed at is to discover a substitute for the milk of the mother which most nearly resembles it in constituent elements. When this is found, the best substitute is found. There is a perfect adaptation of the mother's supply and the infant's demand. If the milk of the mother be nearly approximated in quality by something else, the demands of the delicate digestive organs of the child will be most

nearly met. For these reasons the milk of the ass has the preference of that of any other animal; but as this is seldom attainable, cow's milk, properly diluted, must be taken. The amount of dilution and the addition of sugar has already been adverted to.

This cow's milk should be given at nearly the same temperature as that of the mother's milk; that is, at about a temperature of 97° or 98° Fahrenheit. In general, little attention is paid to this particular by nurses. It is of considerable importance, however. The condition of the infant is such that a temperature of this degree is best suited to it. A common thermometer, procured at a trifling cost, will enable any one to determine the temperature with sufficient precision. In preparing the milk, it is preferable to warm the water with which it is to be diluted before pouring it into the milk. This is much better than by reducing the milk to the proper consistency, and then heating the whole compound. Both the water and the milk should be pure and fresh, and on no account should any portion remaining after feeding be set aside to be reheated for a future time. There is no economy in such a course. On the contrary, by it severe and troublesome cases of indigestion have often been produced. After one or two experiments the amount required for each nursing will be known, and only this quantity will be prepared each time.

In giving the milk to the child, the method of Nature should again be imitated. In nursing from the breast the milk is extracted slowly and in small quantities. It is

important to remember this. The nursing-bottle is admirably adapted to secure this end. It consists of a glass bottle with a tube of prepared rubber passing through the cork. One end connects with the milk in the bottle, while on the other is fitted an artificial nipple. In using this apparatus, the utmost cleanliness is indispensable. Neither bottle nor tube should be laid aside after nursing without being thoroughly washed in warm water. Each should then be laid in cold water until it is needed again; this precaution is necessary in order to prevent any sour taste or disagreeable smell being created through the fermentation of particles of milk adhering. The points named above should be rigidly observed — namely, the most perfect cleanliness, the use of only pure and fresh milk, and the rejection of any remaining quantity. The importance of these suggestions is readily admitted by any one who has observed the rapidity with which milk becomes acidulated and gives rise to unpleasant odor and taste

The intervals at which the child should be fed and the quantity of food to be given at each time, are matters of importance. Here, as always, it is best to go to Nature for suggestion and information. In natural nursing, it has been already observed that proper intervals should be arranged at which the child should have access to its mother's breast. These periods are equally necessary in artificial nursing. The first sign given by the child of indifference for the bottle may safely be taken as an indication that it has had sufficient for that time, and the bottle

should be removed. As a general rule, from one to four tablespoonfuls of milk for the first two or three weeks are amply sufficient, increasing the quantity as the child grows older and stronger. The intervals between the times of feeding should follow the same rule as those laid down in natural nursing, noticed in a previous chapter. Many nurses, ignorantly assuming that liquid foods contain but little substance, administer it too frequently and in quantities too large. The effect of this is to oppress the stomach and excite vomiting.

If the child thrive and sleep well, the proportion of water may be gradually diminished after the third or fourth week. At the end of the fourth or fifth month, if it continue well and hearty, the dilution may be discontinued entirely. Care should be taken to procure milk from a sound, healthy cow, and from the same cow continuously, if possible. Attention should also be given to the feeding of this cow, noting that the food and water upon which she subsists is of the best quality, clean and pure. The quality of the milk yielded depends very greatly upon the care and feeding she receives. More, however, depends upon the quantity and regularity of nursing the infant than upon the quality of the milk as it comes from the cow's udder. Many of the stomach and bowel troubles of the child which are laid to the quality of the milk used have their real cause in excessive and irregular feeding of proper food.

In infancy the natural tendency is to excitement in the digestive organs. For this reason, milk and farinaceous

substances are more suitable for food. Occasionally a child is found so deficient in natural constitutional vigor as to require some stimulus. In such a case, chicken tea, or even beef tea may be given to advantage. Such tea should be made very weak and given in very minute quantities at a time. In changing the diet of the child for whatever cause, it is always incumbent to give careful scrutiny to effects. The first indication that the kind or quantity is injuring the child should be sufficient to determine a halt. Prevention is always better than cure. By closely watching the effects of a change of any sort, the mother can readily decide whether her child is being benefited or injured by it, and she should govern future conduct accordingly.

Teething.

During the earlier months of infancy the child is nourished from its mother's breast. The power of suction is all that is required. The tongue, lips and cheeks fully supply this requirement. In furtherance of this design, the jaws are short, shallow and toothless; the muscles by which they are moved, feeble and of delicate structure. In the course of a few months, as the child develops, and a more consistent and nutritious food becomes necessary for its support, a corresponding change takes place in the organism. The bones of the face begin to expand; the jaws increase in length, depth and firmness; the gums become more elevated and harder on their surface; the cavity of the mouth enlarges; the muscles that move the

jaw increase in size and power; the child manifests an increased tendency to carry to its mouth everything it can lay hold on, a habit which aids the further development of the bones and muscles that are concerned in mastication.

About the seventh month — earlier or later in different children — there begins a more remarkable change, which does not terminate until the end of the second year. This is the teething period, the proper management of which is essential to the welfare and safety of the child. Teething is a process of Nature, and in a healthy child, if correctly treated, should not be attended with especial danger. But, if the child be delicate, or the management injudicious, the period of teething is productive not only of danger to the child, but also of no little care and anxiety to the parents. Proper knowledge in regard to this process is, therefore, important.

The adaptation of Nature to the varying requirements of physical life in its successive stages is wonderfully appropriate. From the infant at the breast teeth are withheld, because these appendages would not only be useless, but often an absolute incumbrance, interfering with suckling. At a later period, however, when fluids alone no longer fulfill the demands of the body, teeth are provided for the mastication of solid food, whereby it may be broken, mixed with the juices of the mouth, and more easily swallowed and digested. Feebleness of constitution or the effect of disease frequently retards the development of the system and delays the appearance of the teeth; hence the period of weaning the child and changing its

diet is not determined solely by its age. With the majority of children, the first symptoms of teething will appear at the age of about seven months. From this time on until the full set is cut the dangers and troubles of teething exist.

The first stage of teething is indicated by heat and irritation of the mouth and general constitutional disturbance. Saliva flows in unusual quantity from the mouth, and the infant is restless, tears and smiles succeeding each other at intervals. The face and eyes become red, appetite changeable, and thirst considerable. The sleep is disturbed, and general uneasiness pervades the body. The gums, which at first were unaltered, become swollen and painful. The child bites at everything it can get into its mouth, a proceeding which appears to mitigate its suffering. The bowels at this time are generally very loose, which, to a limited degree, is beneficial. After a short time these symptoms subside, terminating the first period of dentition.

The second stage soon follows. Instead of carrying everything to its mouth the child fears to have anything come near it, and will usually cry if it happen to bite anything. The mouth and gums become hot; a pale or bright-red elevated spot appears upon the gum; the child changes color, is restless and desires to be laid down, but immediately to be taken up again. Nothing pleases it. It one moment demands the breast, the next turns from it; it snatches at everything but keeps nothing — in short, it is manifestly very uneasy. When the teeth are

cut the symptoms subside. Many children, however, especially those well constituted and judiciously managed, pass through teething with little disturbance.

The incisors are more easily cut than the eye teeth, the appearance of the latter being, notwithstanding their pointed form, frequently accompanied with much more disturbance.

Dentition, a natural process, should not be a source of danger; but slight causes are more apt to give rise to disease during the period of teething than at other times. If disease do occur, it is aggravated and rendered more dangerous. Increased irritability is the real symptom of the constitutional disturbance attendant on teething, and the best method of carrying a child safely through this perilous period is systematic management from its birth onward.

The first and most important item necessary to free children from many of the evils attending dentition is pure air. It will do more to counteract and subdue that nervous irritability characteristic of infancy than any other remedy. If a child spend some hours daily in the open air, and then occupy a large, well-ventilated room in-doors, and be not overfed, it will usually suffer but little while teething. But if it be taken out to exercise only at irregular intervals, and be cooped up in a warm and ill-ventilated nursery, it is placed in the situation most likely to render dentition a process of difficulty and danger.

Although the infant, when properly protected, can scarcely be too much in the open air in temperate or fine

weather, yet the unusual susceptibility of the system at this period of teething demands that it be not rashly exposed to harsh or cold weather.

If, from an ill-directed desire to strengthen the child, it be incautiously exposed to damp or cold, or to currents of air, inflammatory diseases may be induced, endangering life. The same result may ensue if the child be not sufficiently clothed to keep up the natural warmth of the body.

The tepid bath forms another important factor in the management of the child during this period (as well as at all others), from its power to allay nervous irritability. Gentle and repeated friction over the surface of the body has a decided sedative effect upon the nervous system.

A light, cooling diet should be strictly adhered to during the acute stage of dentition ; and if teething take place before weaning, the mother or nurse should also adopt a mild and cooling diet, and avoid any anxiety or fatigue, as these effect the health of the child. During the active stage of dentition there is considerable tendency to congestion of the brain, which becomes a source of much danger from the frequency with which convulsions are thereby induced. If there be manifest symptoms of this trouble, which is so much dreaded by mothers, give the child at once a bath and friction ; and if the gums be much inflamed and swollen, they should be scarified to relieve the congestion. If convulsions attack the child, it should be placed at once in a warm bath, and ice or cold water applied to its head. These symptoms of dentition are

really the same as chills in an adult, but attended with more danger.

The first or milk teeth are twenty in number, including eight front teeth or incisors, four canine or eye teeth, and eight molars or grinding teeth. These beginning to appear, as has been stated, about the seventh month, are generally completed between the twentieth and thirtieth months of life. When the child attains the age of seven or eight years, these temporary teeth begin to fall out, and are gradually followed by the permanent teeth. These are thirty-two in number, the last four of which, because they do not appear until after maturity, are called wisdom teeth.

Each jaw contains sixteen of these thirty-two teeth. They are divided into eight front or cutting teeth, four eye or canine teeth, and twenty grinders.

Although the teeth be so long in making their appearance, their rudiments exist in the jaw long before birth. It is not the purpose to enter upon any detailed account of the various processes in the development of the teeth; suffice it to say, that at the time of birth the milk teeth are not only well advanced, but in a few instances have made their appearance beyond the gums. The teeth appear with some degree of regularity, the middle two of the lower jaw coming first, soon followed by those in the upper jaw. In a period, longer or shorter, the lateral incisors in both jaws emerge, so that the child has eight teeth, four above and four below. After another interval, when the child becomes fifteen or sixteen months old, the

A Spoiled Pet.

front or anterior molar or canine teeth are cut. The second or posterior molars, the last of the milk teeth, are not usually seen until the child is between twenty and thirty months old.

The first period of teething has two distinct stages. In the first, the capsule swells and presses upon the adjacent parts, while in the second stage the tooth rises, presses upon, and passes through the gum. The second process may or may not follow the first immediately. Active symptoms of teething are often experienced without any teeth making their appearance. Perhaps a few days later the work may be resumed, or the teeth may appear without any noticeable disturbance of the child's health.

Period of Teething.

As the teething period is protracted over a period ranging from twelve to twenty-four months, it necessarily follows that the season of the year in which the acute stages are passed should be carefully considered. It is a proverb among house-wives that the second summer of the child's life is the difficult point to pass. This has its origin in the fact that a critical teething stage is likely to come in the later summer months when the infant is susceptible to certain diseases, serious enough at any time, and increasedly so by reason of the complications of the teething process.

Too much anxiety to amuse the child may become a source of morbid irritation; hence a quiet, soothing and cheerful manner is by far the most suitable, and tends

much to comfort the child. The unusual flow of saliva from the mouth has a beneficial effect upon the brain, and should not be stayed. The bowel trouble, also, unless it become excessive, need not be interfered with. It is well not to cut or scarify the gums, unless the teeth are so nearly through that the gums will not close again over them. If the gum heals up over the tooth, a scar is formed which makes the gum more resistful than it would otherwise have been.

Too-early feeding of solid food, or supplying the child with hard substances to bite upon, renders dentition more difficult, on account of the hardening effect upon the gums, so that they are with more difficulty pierced by the teeth.

Second Dentition.

The second dentition is seldom attended with constitutional disturbance, but the progress of the teeth should be carefully watched, to see that they come in their proper places, and in the right direction; also that they are not so crowded as to press injuriously on one another, thereby endangering the permanent regularity. Not only the form and expression of the mouth, but the beauty and preservation of the teeth themselves, depend greatly upon their management at this period. The little care and expense necessary at this time to insure regular, evenly-formed teeth will be abundantly repaid in all the after years of life.

Importance of the Teeth.

Few persons fully appreciate the importance of the teeth in the economy of digestion ; hence, very few take proper care of them. It is only when we grow old and find them wanting, or when we suffer from their decay, that we are reminded how remiss we were in their preservation. This is more remarkable from the fact that Nature teaches us their great importance by furnishing two distinct sets, so that in the decay, pain and loss of the first we may be forewarned for the preservation of the second.

The teeth in the lower jaw are brought in contact with those in the upper by a powerful set of muscles, which enable the operator to crush hard substances. These, being saturated with the juices of the mouth, are thereby more easily swallowed, and are better prepared for solution in the stomach. It will be observed, then, that the work done by the stomach will be facilitated in proportion to the effectiveness of that previously done by the teeth. It is doubtless true that when the stomach is healthy and vigorous, and its juices abundant, it will for a while overcome any defects in mastication, which, therefore, entail but little inconvenience. Hence, many persons grow more and more reckless, and if reminded of the danger of their folly, reply with confidence: " Nothing hurts my stomach." " Be sure that your sins will find you out " is just as true in reference to physical sins as to any other. The health of the stomach is of the first importance in the construction of animal economy. If good and healthy food be

taken in proper quantities and completely masticated into a healthy stomach, and then supplied in its passage through the stomach and duodenum with those juices that Nature provides for digestion and assimilation, the result must be the manufacture of good and healthy blood, which will build up sound, healthy tissue, to replace that which has become worn out. But if, on the other hand, from want of teeth, food cannot be properly ground, undue work is thrown upon the stomach, and that grinding which should have been done by the teeth is left to be accomplished by the more delicate "teeth" of the stomach, thereby not only overtaxing it with work that does not belong to it, but compelling it to perform a kind to which its delicate constitution is not adapted. Indigestion is thereby induced; food is permitted to ferment and decay in the stomach; the products of this fermentation and decay are carried into the circulation to repair the wasting body — with what? Not health, but disease. Is it a wonder, then, that so much trouble and disease are attributed to the stomach, when so much of health depends upon the manner in which its work is performed? Since the teeth are essential in enabling the stomach to properly perform its work, how important it is that their health and preservation should be studied. While the teeth are necessary in the preparation of food for the stomach, and contribute beauty and symmetry to the mouth, they also have much to do in articulation. Difficulty in speaking distinctly is experienced by every person who has suffered their loss. There are certain sounds that can-

not be distinctly uttered without the aid of the teeth. Artificial teeth only increase the difficulty of meeting this requirement.

As soon as the second set of teeth is formed, the child should be taught to care for them. It will be then old enough to understand, to some degree, the importance of this. A brush, not too stiff, should be given each child, and its use after each meal insisted upon. Let the habit of caring for the teeth be formed. The child can be made to feel that it is as necessary to clean the teeth as it is to eat, and that these two things are inseparably associated. When the habit is once finally established, it will not easily be broken up. A few general directions on this point follow :

Preserving the Teeth.

To preserve the teeth, they should be regularly cleaned after each meal. Every particle of food that has found a lodgment in any of the interstices should be carefully removed by some pliable substance, such as quill or soft wood. A metallic instrument that may damage the enamel, and thus produce disease and decay, should not be used. When this has been carefully done, the mouth should be thoroughly cleansed with brush and water; if need be, add to the water a little castile soap. If this work be thoroughly done, much will be accomplished, not only in preserving the teeth, but in obviating what, above all things, is to be dreaded, especially by the young — "a bad breath." Many denti-

frices, some of which may be very good, have been compounded and placed upon the vendors' shelves, accompanied by flattering recommendations. Doubtless many are sold, not upon their real merit, but upon glowing advertisement, without any reference to the affinity that certain constituents may have for the composition of the teeth.

Sulphuric acid, diluted honey and charcoal make an excellent compound for removing dark accumulations on the teeth, rendering them clean and white; but the acid is very damaging to the enamel of the teeth. People should be careful in buying nostrums for the teeth as well as for the stomach. A very good as well as cheap dentifrice can be made by compounding charcoal and orris root with a little gum myrrh. It will accomplish very nicely the work of cleaning and whitening the teeth, and keeps the gums healthy.

Diseases of Infancy.

The nervous sensibilities of the infant excite muscular activity. It lives, moves and breathes. But continued life is conditioned not on respiration alone, but on the circulation of the blood. At the moment of birth, the separation of the child from its mother, three changes succeed instantaneously, viz.: The excitement of the nervous system, the expansion of the lungs, and the change in the circulation of the blood, which causes it to return through the lungs (instead of going directly from the right to the left side of the heart), thus making provision for the diffusion of animal heat.

Food is the primary source of animal heat ; its development and diffusion being dependent upon digestion, respiration and circulation. Therefore why feeble and delicate children suffer and die, may be easily seen. They are not able to digest much food or inhale much air. This disproves the once prevalent opinion that infants have great power of resisting cold ; many from this false notion were permitted to perish for lack of sufficient protection from cold, while the heat-manufacturing functions were not fully established.

In another place was discussed the subject of food of infants and its effect upon the animal economy, as well as the proper kinds best adapted to its delicate nature for the better sustenance of its system. From the evidence there adduced, the conclusion was inevitable that the life and health of the infant depend essentially on the kind of management and the circumstances by which it is surrounded. Where both of these conditions are favorable, the child enjoys the highest degree of health compatible with its constitution. But if the management be bad and the surroundings unfavorable, its life and health will be correspondingly doubtful and feeble.

Upon this proposition depends whatever of advancement may have been made in diminishing infantile mortality. It gives renewed encouragement for further progress, that disease and death may be more frequently averted. Disease and premature death are the results, not of chance or necessity, but of neglect of the conditions on which God has decreed that health and vigor

depend. These conditions have very appropriately been styled the "Organic Laws." Any violation of these laws, as excessive eating or drinking, will induce indigestion. Indigestion is the result of disobedience of the law that the quality and quantity of food must be adopted to the constitution, mode of life and power of the stomach.

In like manner, if the eye be exposed to the rays of too-strong light for a length of time, or if it be used very freely without a sufficient amount of light, inflammation results. It matters little how appropriate or judicious the treatment may be, if the cause be allowed to continue to operate, no permanent benefit will be received. But, so soon as the cause is removed, and we hearken to the law of Nature, which teaches that the rays of light must be adapted to the strength of the organ, the same treatment will soon restore the inflamed eye. It would be equally vain to attempt to cure indigestion by dosing with medicine, unless there be an adaptation of the food and mode of life to the deranged state of the stomach and alimentary bowel.

Convulsions.

Convulsions are a frequent disease of infancy, and are attended with more or less danger. The attack often comes suddenly and without any premonitory symptoms, except there may be slight twitchings of the muscles of the hands and feet during sleep.

There are four principle causes of convulsions, viz.:

1. Breathing impure air for a length of time. This

deteriorates the blood, and thus interferes with the healthy and regular operations of the functions of the brain, thus inducing interruption in the passage of nervous currents, so as to produce irregular and involuntary muscular contractions.

2. Overloading the stomach. This is another very fruitful cause of this disease, and many of the cases of convulsions of children are the result of the presence of some offending substance either in the stomach or bowels. This very frequently is the result of some manifest impropriety, either in the quality or quantity of food, or of unfavorable circumstances affecting the system during the process of digestion, either in the stomach or bowels, producing undue excitement of the nervous system.

3. This irritable condition of the nervous system is not infrequently induced by the presence of worms, which act as offending agents on the sensitive nervous organism.

4. The period of dentition is frequently attended with convulsions from the irritability induced by the long pressure of the teeth upon the dental nerves.

Treatment.

In the treatment of convulsions the first question to be answered is, What is the exciting cause? If it be deterioration of the blood from the effect of vitiated air, the infant should be gradually exposed to out-door air, if the weather be sufficiently moderate and pleasant to be at all suited to its feeble condition. If not, the nursery should be better supplied with a free circulation of pure air.

If the cause be the overloading of the stomach, thereby producing reflex action upon the nerve-centers by pressure upon the gastric nerves, an emetic of syrup of ipecacuanha should be given.

If the child be teething, the condition of the gums should be examined, and, if they be found much swollen and inflamed, they should be freely divided with a sharp instrument, so as to permit the offending tooth to escape, thus relieving the pressure on the dental nerves. It is surprising to find what instantaneous relief this will frequently afford.

In all cases of convulsions, no matter what may be the exciting cause, much relief will generally follow from bathing of the child's extremities, and even well up on the body, in water as hot as can be borne, at the same time making cold applications to the head and face. Should this treatment prove ineffectual in arresting the convulsions, a physician had better be summoned, lest they should be the result, not of irritation, but of organic disease of the brain.

Indigestion of children differs from that of adults, in that it is generally functional. It is a result of overfeeding or feeding at improper times, and is frequently attended with more or less nervous irritability. The infant is restless; sleep is frequently interrupted; the skin is hot and dry; there is considerable thirst; there is a disposition to vomit, the stomach at times becoming very irritable. The stomach and bowels may be considerably distended with gas. The bowels are sometimes costive, but more gen-

erally loose. The excrements are fetid, and often contain quantities of undigested food. Colic pains are felt in the bowels.

To remedy this chain of symptoms the nervous irritability may be soothed by a tepid bath, and by gentle but continued friction, which will largely overcome the heat and dryness of the skin.

The irritability of the stomach will be met by rubefacients or wet-compresses, adding a teaspoonful of soda to one pint of water. Teaspoonful doses of soda-water, made by dissolving a quarter-teaspoonful of soda in a half-teacupful of water may be given, repeating the dose every five or ten minutes.

The nourishment should consist of fresh milk, with the addition of one-fourth of its bulk of lime-water. Care should be taken to administer small quantities at a time. The child should have plenty of fresh air and frequent baths until fully restored. The colic may be the result of flatus in the bowels, or of irritation of the mucous membrane induced from the continued diarrhea, and will disappear on the restoration of the bowels to a healthy condition.

Sore Mouth.

Sore mouth is a frequent disease of infancy. It arises, like most other diseases of early life, from either overfeeding or improper food. If the directions given in "The Hygiene of Infancy" be closely adhered to, little trouble will be experienced with these infantile diseases.

This disease is manifested by a number of small, irregular, white specks on the lips, tongue, and inside of the cheeks and angles of the mouth. The parts affected look as though milk curds had been smeared upon them. The mouth is hot and painful, and the child is afraid to nurse. It cries as soon as the nipple is placed in its mouth. There is usually fever and general disturbance of the stomach and bowels, amounting sometimes to troublesome diarrhea, from which some have supposed the inflamed condition passes down the entire length of the alimentary canal.

The disease is not usually serious, but passes off in the course of a week or ten days. Fresh air, baths and attention to alimentation, are important factors in both the preventive and curative treatment of this disease. The acid condition of the stomach will be best overcome by a few grains of calcined magnesia mixed in a little milk. The looseness of the bowels, will be stayed by the administration of *creta præparata* (prepared chalk) or small doses of subnitrate of bismuth. If these prove insufficient, the aromatic syrup of rhubarb, with the addition of paregoric, will be found quite useful. Much benefit will be derived by pulverizing together borate of soda and granulated sugar in the proportion of one of the former to three of the latter, and placing a small quantity on the back part of the tongue. The sweet taste of the sugar will conceal the borax, and it will gradually dissolve in the child's mouth, producing very happy effects.

Costiveness.

Some children are habitually troubled with a lack of free and full discharge regularly from the bowels. This results either from errors in diet or proper exercise in the open air. Nurses are forever dosing children with laxative medicines. Instead of getting rid of the difficulty these only increase it.

Nothing can be more deleterious, either to old or young, than the habit of taking medicines to act upon the bowels. Such treatment only irritates the lining membrane of the bowels by exciting it to discharge an excess of liquid, to farther soften the contents. This increased demand upon this watery material is followed by a corresponding lack of supply, leaving the bowels dry, causing an aggravation of the costiveness.

The better course to pursue to remedy the evil is to try a change in the diet and a more liberal supply of water externally and internally. Water may be administered freely in the morning, with an admixture of pure brown sugar. Give the child more freedom in the open air, and an additional amount of exercise.

Very satisfactory results are frequently obtained from thorough manipulation of the abdominal muscles, pressing the fingers gently but deeply down into the bowels, so as to knead them perfectly. Accompanying this treatment, small enemas of tepid water may be administered from time to time, until the normal condition of the evacuations be established. If the infant be old enough, very

salutary effects will be produced by either "holding it out" or setting it upon a stool at regular intervals. This may be done while the babe is very young. It is surprising how readily it will understand what is intended by this procedure, and will assist the efforts of Nature, so that a regular interval for the evacuation of the bowels will be established and much trouble and labor for the nurse avoided.

Worms.

There are two kinds of worms that come within the scope of the present inquiry and demand attention. One is the long, round worm of whitish color that generally infests the smaller intestines. It sometimes, however, ascends to the stomach and has occasionally been discovered crawling out of the mouth and nose. In general there exist but from two to six, but occasionally large numbers have been expelled at one time. They are rarely met with in persons over fifteen years of age. The pin, or thread worm, so called from its resemblance to short bits of white thread, is never more than one inch in length, moves very quietly, infests the lower part of the bowels, and frequently creeps out of the fundament. These worms produce an intense itching and irritation at the lower part of the rectum just within the anus, and are a fruitful cause of annoyance not only to children but even to adults. They are frequently accompanied with fever and much nervous irritation, sometimes ending in convulsions or other serious disease that may destroy life.

Indigestion lies at the foundation of all the causes that are assigned for the propagation of this as well as the other variety of worms to which we have called attention.

Some of the more prominent constitutional symptoms of worms are a gnawing, uneasy feeling about the stomach, which may be removed or diminished by eating. The appetite is deranged and variable — often more than ordinarily voracious. The belly is large and hard and more or less painful. There is frequent picking and rubbing of the nose, disturbed and restless sleep, with grinding of the teeth, bowels costive or sometimes the reverse. The countenance is at times pale and then flushed, the eyes are sunken and dull, bordered underneath by a dark stripe, the skin is dry and at times quite hot, the flesh wasted and muscles soft and flabby. There is often great irritation of the nervous system. The grinding of the teeth, talking during sleep or waking up screaming, foul breath, frequent pain in the bowels, variable appetite and sickness of the stomach are strong symptoms of worms.

Treatment.

The country is flooded with worm nostrums, many of them answering very well so far as the expulsion of the worms is concerned. The general public being ignorant of their composition, prudence would suggest that they be administered with much caution, as they are liable to contain very potent remedies.

Three or four grains of santonine (to which may be added one grain of calomel) and twelve to fifteen grains

of white sugar, thoroughly triturated and divided into three powders, administered on an empty stomach thrice daily, and followed with a full dose of castor oil, to which has been added a few drops of spirits turpentine, will be found a very safe and effectual method of destroying these troublesome creatures.

The old time-honored but poisonous *spigelia marilandica*, better known as pinkroot, is a very proficient remedy and may be safely used in the following compound: take of pinkroot, Alexandria senna, manna and worm seed, of each half an ounce, bruise all, and add to the powder one pint of boiling water. Let all stand to steep for half an hour. Strain and sweeten with New Orleans molasses, to which may be added a gill of milk. A gill of this tea may be given to a child five or six years old three times daily on an empty stomach. Increase or diminish the dose according to the age of the child. The quantity given should be sufficient to produce a cathartic effect on the bowels.

A very satisfactory preventive treatment will be found by dissolving one drachm of sulphate of iron (copperas) in a gill of whisky, and administering a teaspoonful, more or less according to the age of the child, in the morning, on an empty stomach.

The pin or thread worm that infests the rectum may be dislodged by injecting into the bowels a weak solution of cold, soft water and salt, allowing it to be discharged freely, thereby washing out the bowels and ejecting the troublesome occupants. Practicing this treatment for a few consecutive days will generally remove the trouble.

If a child that is suspected of having worms be disposed to gag, with repeated efforts at swallowing, suspicion should be aroused in that the worms are endeavoring to ascend the throat. An emulsion of turpentine with castor oil, or elm-bark mucilage should be administered to cause them to return to the stomach, lest the irritation thus induced should bring on convulsions.

Diphtheria.

Diptheria is an acute, specific, and by many regarded contagious, disease, characterized by a spreading, asthenic inflammation of the mucous membrane of the throat, and the exudation of false membranes on the tonsils and adjacent parts. It frequently occurs as an epidemic, and generally is confined to the young. Attacks upon persons of middle life or upward are rare. One attack of this disease does not protect from the disease, but the same child may have it repeatedly. Some individuals and families have a greater predisposition to it than others. There appears to be a period of incubation, lasting generally from two to five days, when the characteristic symptoms appear. The first thing observed is a feeling of depression, muscular weakness, headache, furred tongue, some nausea, painful deglutition, or swallowing, with fever more or less marked. The tonsils become swollen and dark colored and the glands about the angle of the lower jaw get tender. The diphtheretic membrane first appears on the tonsils in the form of white or gray spots. These spots enlarge and form patches of considerable size, which

gradually extend forward to the soft palate, or into the nostrils, or backward into the larynx and down the windpipe.

This membrane increases in thickness as the disease spreads, and although it is at first a white or grayish color it eventually becomes brown or almost black, and emits a very offensive odor. If it be forcibly removed by an instrument, the surface underneath is seen to be red, and frequently bleeds, but in a short time is covered with a similar membrane. The tonsil may slough, and when the nostrils become involved and lined with the false membrane, they are swollen and the discharge is fetid and offensive. Hemorrhages frequently occur. There is usually, also, a low and dangerous form of fever, with great depression of spirits and rapid failure of strength, which is rapidly accelerated by inability to take nourishment. In favorable cases the disease usually lasts from ten to fifteen days; mild cases not so long. Termination in death or recovery may usually be foretold in six to eight days.

There are various forms of the disease. The one just described is of the most malignant type and a large proportion of the cases end fatally. Frequently the general local symptoms are mild, with little fever, some soreness of the throat, and slight exudation upon the tonsils. Such cases yield readily to mild remedies; as a mild purgative with a free use of a saturate solution of chlorate of potassium. This is made by putting two or more drachms of the chlorate into two or three ounces of hot

water. Give the patient a teaspoonful every hour if it be five to eight years old. The dose should be increased or diminished according to age.

If the patient be feeble, some tincture of iron may be added to the solution, the quantity depending upon the age of the patient. Eating should be encouraged, and a light, nutritious diet administered to keep up the strength. Stimulants and tonics will generally be found useful. Cleanliness will form an important factor in benefiting such patients.

These means will meet the indications in the mild forms of the disease. It would not be possible nor advisable in a work of this sort to attempt giving advice in cases of the malignant forms of this complaint. It is altogether too serious to be trusted to unprofessional treatment.

Sore Eyes.

Sore eyes are so easily known that but little need be said about the symptoms. The disease is an inflammatory one of several distinct varieties, the appropriateness of the name depending upon the part of the eye that may be the seat of the inflammation. The form of the complaint which is here introduced is an inflammation of the eye, usually the result of a cold, and sometimes the result of a lack of that precaution in washing the infant to which attention was called in discussing the subject of baths, thus permitting some irritating matter to enter the eye, or exposing it to too strong light.

Whatever be the cause, the disease soon subsides by

protecting the eyes from the light, and carefully bathing them in tepid water. If the case be severe, the eyes may be poulticed with pulverized elm-bark, moistened with warm milk and water.

A very efficient eye-water may be made out of a decoction of jimson, to which may be added a half-teaspoonful of salt and a half-ounce of tincture of opium to each pint of the decoction. This will be found to be a very valuable lotion for any sore eyes, either of children or adults. A few drops may be let fall into the eye twice daily. Nitrate of silver, one grain to an ounce of soft water, will be found very efficient in allaying the inflammation.

Earache.

Earache is another inflammatory affection. It is caused mainly by exposure to strong, cold winds without sufficient protection. It is one of the most painful diseases of childhood, and affects persons of all ages.

Being the result of cold, means should be adopted to abort the cold. For this purpose the child should be placed in a bath of high temperature, and remain until there is free action from the skin, when it should be taken out and thoroughly rubbed till a red glow is produced over the surface. Warm applications should be made to the external ear, and if this do not bring relief, warm water as hot as can be borne should be poured into the ear.

Should the inflammation continue, notwithstanding the

faithful administration of these remedies, relief will most certainly follow the application of equal parts of tinctures of lobelia, blood-root and opium. After warming the mixture to blood heat, fill the ear and apply some cotton wool.

Chafing.

Children and fat persons are all very liable to suffer from chafing or excoriation of the skin in certain parts, especially in warm weather. In children the parts most likely to chafe are inside the thighs, behind the ears and around the neck.

This affection is frequently the result of want of sufficient and frequent baths, which have a salutary effect upon the skin, not only in cleansing, but in keeping the skin soft and healthy, obviating dryness and tendency to disease.

Excessive excoriations that are persistent indicate an enfeebled state of health and a tendency to strumous disease, as well as a diseased condition of the skin. Such cases will require general restorative treatment and a thorough application of the principles of hygiene, accompanied with good, nourishing food and plenty of fresh air. The diseased parts should be washed with castile soap and cold water, and anointed with vaseline, fresh butter or cream. A solution composed of ten grains of sulphate of zinc and a half-drachm of borax to four ounces of water will also be found good as a wash once or twice a day. An ointment may be used made of oxide of zinc,

one drachm, cosmoline one ounce; mix thoroughly and apply after washing with the soap and water.

Nose-Bleed.

Epistaxis, or bleeding from the nose, is most frequently a disease of childhood or early life. It is rarely alarming in youth unless it accompany some other disease; then it may be a grave symptom. It may result from mechanical injury or congestion of the lining membrane of the nose; hence an unusual determination of blood to the head will often bring on bleeding from the nose. Some children are much more liable to this disease than others. Unless the bleeding be profuse, it need not produce any alarm, and usually stops in a few minutes if nothing be done. Should it be necessary to interfere, the application of cold water to the nape of the neck and back will often, through reflex action, arrest the discharge. The child should be set upright and directed to hold one hand above his head, and with the other compress the nostril, which causes the blood to coagulate and thus stay the bleeding.

A very simple remedy that frequently is attended with good results is to roll up a piece of paper or muslin and place it above the front teeth under the upper lip; by pressing hard upon this substance the passage of blood through the vessels leading to the nose will be obstructed.

Youthful Urinary Troubles.

The functions of excretion being so necessary an accompaniment of nutrition, we find the kidneys ready to start into activity soon after birth. The discharges from

these organs are at first involuntary on account of the feeble condition of the sensitive organs; the quantity is small on account of the small capacity of the bladder. But as the organs of sensation develop, the infant will be made to realize, in his wakeful moments, the discharge of water from the kidneys, and may soon be able to communicate his knowledge to an observing nurse by the expression of his countenance.

But it sometimes happens that the sphincter muscle of the bladder will relax sufficiently to allow the escape of its contents without exciting the nervous sensibilities of the muscle sufficiently to make the child wake up out of a deep sleep. Although this condition is always present with the very young, yet there are not a few instances in which it continues for several years, much to the annoyance of the nurse and discomfort of the child.

A very satisfactory mode of treatment will be found in the early education of the child to regular periodic evacuation of the bladder, insisting, as he grows older, that he shall lengthen these periods by efforts to resist the admonition of Nature, thereby strengthening the sphincter muscle by the increased exercise, and at the same time enlarging the capacity of the bladder.

The child should always be taken out of bed, if possible, to evacuate the bladder. The establishment of this habit will do much to the accomplishment of the desired end. If these means fail, a physician should be consulted, as the remedies best calculated to accomplish the desired end are too potent to risk in the hands of the inexperienced.

Most cases will, however, be found to yield as soon as regular habits have been established, and will fully reward the nurse for all the trouble necessary to do it.

Colds.

This country is noted for the inconstancy of its climate. A variation of twenty degrees in half as many hours is nothing at all uncommon in many sections, while a change of fifty and even sixty degrees in the same period has been marked. This rapid and wide variation of temperature is most favorable to colds and catarrhal affections. These complaints are quite common. They result from obstructed excretions from the skin, and are too well known to require extended description. Suffice it to say that the general symptoms are the same everywhere — a stuffing up of the nasal and air passages, sneezing, weariness, chills, coughs, etc.

Few diseases demand more prompt measures of relief than these. Few are more generally neglected. Most mothers and nurses, noting that the child has contracted a cold, attach little importance to the fact. They allow the complaint to run its course, and scarce give a moment's reflection to any serious consequences which may result. Yet, in the very nature of the case, there is cause for alarm. Cold closes up the pores of the skin and many of the natural avenues of escape for the effete and poisonous materials of the system. If the natural powers of the child are inadequate to expel these poisons through the channels left unobstructed, they must be absorbed,

and the absorption incurs great hazard. Herein lies the necessity for prompt measures, to start the arrested excretions and permit the ordinary functions to perform their accustomed work.

Nothing will prove more effectual in accomplishing the desired end than an early bath of sufficiently high temperature to produce a free action of the skin. This action should be further stimulated by effective rubbing of the surface with a dry napkin. It would be well to assist the elimination of the poison through the skin by inducing a free action from the bowels with some saline purgative. See to it that copious sweating be induced and continued for several hours, and that the child be thoroughly protected by warm blankets for several hours after the sweat, until the complete reaction of the system has been established.

The nourishment should be light and easily digested. No faith is to be put in the adage, "Feed a cold and starve a colic." Excessive feeding will be found deleterious in the proper management of all diseases. Pure fresh air will be of incalculable benefit through the progress of the treatment, as at other times.

Croup.

Croup is an acute inflammatory disease of the trachea, or windpipe — it may be of the glottis, larynx and trachea. It rarely occurs in a child under one year old or over seven. Children are thought to be most liable during their second year. It occurs most frequently in cold,

damp, changeable climates, and is one of the most dreaded and fatal diseases with which children are afflicted.

There are two varieties of this disease, known as true and false croup. The first comes on gradually; hence, it is less liable to cause alarm than false croup, which comes on suddenly. True croup is accompanied with some fever from the outset, resulting from the inflammation of the air passage, and some hoarseness, which is aggravated at night.

False croup is a spasmodic closure of the glottis, causing shrill breathing. It is not accompanied with fever or the exudation of false membrane. It is rare for true croup to recur in the same individual, while false croup may recur frequently. The duration of true croup is from three to seven days; that of false croup only a few hours. True croup is very fatal; at least fifty per cent. of all the cases die. False croup rarely ends fatally, and those not familiar with the disease are astonished to see how suddenly it yields to appropriate remedies. True croup is not so common an affection as is generally supposed. A large majority of the cases of croup belong to the more mild variety.

Hoarseness is one of the earliest symptoms of croup. It should be borne in mind that a young child, unless he be going to have croup, is rarely hoarse. If, therefore, your child is languid, indisposed to take food, with symptoms of catarrh, some cough and hoarseness, you should be on the alert and carefully watch him so as to be ready at any moment to subject him to the most vigorous treatment.

This disease is so frequently fraught with serious consequence that it is always best that a physician be early summoned. To meet emergencies which often occur, the following course of treatment may be adopted :

A bath, in this disease, like all those inflammatory diseases that are the result of a damp and changeable atmosphere, will be found of great advantage if early administered. Keep on hand a quantity of the syrup of ipecac, wine of ipecac, or syrup of lobelia. Begin at the earliest dawn of the disease to administer one of them in full doses every five to ten minutes until free vomiting be excited. The life of the child largely depends upon the accomplishment of this end. Should vomiting be excited with difficulty, increase the quantity boldly, assured that less danger will result from an excess of the remedy than from failure to accomplish the end sought.

After free vomiting, the stomach being well-evacuated, smaller doses of the remedy may be given from time to time, keeping up a free action of the skin. A large sponge, taken out of water as hot as can be borne with safety to the skin, should be applied to the throat and frequently renewed. It often times affords great relief and ought not to be neglected. A saline purgative should be given as soon after the vomiting as the stomach will retain the medicine, unless the bowels are already loose. The free use of the ipecac will have a tendency to affect the bowels.

Whooping-Cough. (Pertussis.)

Whooping-cough is a disease partly inflammatory and partly nervous, seated in the larynx and bronchus, or windpipe, uniting spasms of the bronchial muscles and inflammation of the bronchial mucous membrane. Whooping-cough is an (infectious) contagious disease. It is characterized by slight fever, bronchitis and a convulsive cough, followed by several slight expiratory efforts; then a long, shrill inspiration and expectoration of glairy mucous.

The history of the disease dates back only to the sixteenth century, soon after the appearance of the eruptive fever. It was most probably imported from the East. It is associated with measles, and appeared about the same time. No combination of natural causes can produce it. It is most frequent in temperate climates, and is most fatal when cold winters follow hot summers. It may occur at any age, but is met most frequently among children, on account of its epidemic and contagious character. One attack protects from another. The mortality from this disease and its complications is very great, and more especially among males. It is most fatal among the poor. Infants under six months are less liable to the disease than older children, as they are less exposed to all contagions, but the disease may commence before the child is born. The epidemics frequently spread over large districts. The contagion may be carried in the clothing of the sick.

This disease has three stages: (1) Catarrhal; (2) Convulsive; (3) Decline. Incubation lasts from two to eight days. Invasion sometimes occurs without any known cause or previous evidence of the disease. There seems to be a peculiar connection between whooping-cough and measles; the former frequently follows the latter. The usual course of the disease commences with the catarrh and cold in the head. Tears or water flow freely from the eyes, and there is slight fever, less than that which accompanies ordinary catarrh. There is cough, which may last a fortnight, and is indicative to a practiced ear. This cough becomes paroxysmal, occurring regularly, and finally convulsively. The little patient feels the cough coming on, and leaves its play to run to a chair or some other object for support. Then comes a short, dry, jerking cough, becoming louder, and a number of short expirations, which expel the air from the lungs, arresting the circulation of the lungs, causing congestion of the face and eyes. The veins are prominent and the nostrils dilate. Then comes a long, shrill inspiration, which may be repeated, then a sound of gagging and a free discharge of glairy mucous. The violence of the cough sometimes causes evacuation of the stomach, bowels and bladder, or a hemorrhage from the nose or stomach, or dark rings about the eyes.

The paroxysms, which usually occur during the night, last from one-half to two minutes, returning at regular intervals, perhaps hourly. They may be brought on by overeating, by taking food, or by cold. All spasmodic

attacks, except hysterical ones, are apt to occur at night. If the paroxysms are not too severe, the child will return to its play, or it may become exhausted and gradually grow weaker.

There is no sound heard in the lung during the cough and none during the respiration following it, on account of the bronchial obstructions preventing the air from reaching the cells. The heart palpitates and the pulse becomes very frequent during and immediately after the paroxysms. During the decline the paroxysms and all the other symptoms become gradually less severe, and then finally end in catarrh.

In ordinary cases there are no bad effects except loss of flesh from vomiting, and loss of sleep from coughing. Death from suffocation or exhaustion sometimes occurs in very young and feeble persons, or after measles. The great danger in this disease is in what may follow as a consequence.

Duration.

The disease usually lasts from two to four months. Some cases, however, may last from seven to nine months. In ordinary short cases the catarrhal stage may last two weeks, the convulsions six or seven, and the decline from one to three. The disease has its shortest course in mild climates and seasons. Recoveries are most frequent in spring and summer. If children contract it in the fall, it will not likely entirely leave them until spring.

Complications.

These are simply respiratory, circulatory and nervous. Bronchitis, capillary bronchitis, croup and pneumonia, are diseases of the respiratory organs resulting from whooping-cough. Decease is apt to occur from exhaustion and suffocation.

Capillary bronchitis may run into pneumonia. If pneumonia be circumscribed, sudden death rarely occurs. The disease is then more prolonged and sometimes lasts for months. About two-thirds of those attacked with pneumonia or capillary bronchitis die.

Nervous complications are the result of cerebral congestion. Nervous symptoms may appear early in young infants, or may not come on until later in the disease. The child becomes stupid, drowsy, and has convulsions. Symptoms may appear very insidiously with headache, increased difficulty of breathing, and sickness at the stomach. When vomiting occurs at other times than after a paroxysm of coughing, it is caused by irritation of the brain. Diarrhea is a complication. In severe cases it may indicate serious brain-trouble.

Treatment.

In the first stages treat the catarrh and husband the strength — warm atmosphere day and night, warm clothing, good ventilation, exercise, and regularity of the bowels. In the first stages, before the absolute character of the disease is developed, give syrup of ipecac in half-teaspoonful doses every half hour, until vomiting ensues.

Give that at night. During the day a simple soothing sprup is to be administered, such as the following: Paregoric, one drachm; syrup of ipecac, half a drachm; syrup of squills, one drachm; syrup of gum-arabic, four drachms; water, twelve drachms; mix, and give a teaspoonful every three hours to a child one year old. In mild cases the above treatment will answer quite well, but the doses should be increased in quantity during the second stage.

There is no means of preventing the disease. Guard from the disease infants and those just weaned, also those just recovering from measles, or other eruptive diseases, and those having lung disease. If the season be good and the child healthy, it would be proper to permit or, even more, encourage contagion. The most useful remedies are belladonna, bromides, quinine, and asafœtida. The great remedy is belladonna. It may be necessary to push it, and, on account of its potency, it should be administered with caution. In simple cases one dose daily will be sufficient, and may be administered in the following formula: Fluid extract of belladonna, twelve drops; sulphate of morphine, one grain; syrup of squills, one ounce; water sufficient to make two ounces; mix. Dose: From half to a teaspoonful at night to a child from three to six years old. In the case of infants, begin by giving four or five drops, and increase until the effect is gained. In older children, begin with ten or fifteen drops. When given at night, the depressing effects are not felt. In bad cases, half a dose may be given after breakfast.

One or two doses may be given through the day. In very bad cases the bromides should also be administered: Bromide of ammonia, one drachm ; bromide of soda, one-half ounce ; water, three ounces. Make a solution, and give half a teaspoonful to a child from three to six years old — more or less according to the age.

Dr. Meigs recommends alum in the following formula: Pulverized alum, half a drachm ; white sugar, one drachm ; mix thoroughly and divide into fifteen powders, and give one dissolved in water every three to five hours. If the expectoration become scanty, give the following : Syrup of ipecac, one drachm ; syrup of squills, two drachms ; syrup of wild cherry and acacia, each four drachms ; water, five drachms ; mix. Dose : a teaspoonful as often as necessary to restore the expectoration.

To move the bowels, mix together equal parts of castor oil and New Orleans molasses, and give from one to two teaspoonfuls, according to the age of the child. Quinine is the best tonic, and arrests the reflex irritability of the nerves. It should be given in large doses. It may be made into a soft pill and given in jelly. If children cannot take quinine by mouth, it may be given in injections. Asafœtida is a remedy of much importance in whooping-cough, and children take it very readily. Give a child of six years a teaspoonful of the asafœtida mixture two or three times a day. Asafœtida may be administered by the rectum in small children with very satisfactory results. It is given at the close of the second stage, and the beginning of the third. The elixir of quinia, strychnia, and iron

are good, or the tincture of the chloride of iron. Any of these may be given when a tonic is required.

Vaccination.

For many centuries past medical men had practiced inoculation with the virus of small-pox, believing that when the disease was so induced, it was less virulent in its effects upon the sufferer than when acquired in the usual way of exposure. In 1718 Lady Mary Wortley Montague, while visiting at Constantinople, became a convert to this modified method of propagating the disease of small-pox, and, upon her return to England, demonstrated her belief in its sufficiency by permitting her son to be inoculated. By this means inoculation was introduced into Great Britain, and then spread over the continent of Europe and proved to be of much benefit in modifying the severity of this much-dreaded disease. But it remained for a distinguished physician by the name of Jenner to discover, by various and prolonged experiments, and to introduce vaccination, that masterpiece of medical induction.

Vaccination is a process by which a specific disease termed "cow-pox" is introduced into the human organism, with a view to protecting it against an attack of a disorder of much greater severity — small-pox. The method of vaccination, and its proper effects upon the human subject, are mainly the object of the present inquiry.

Children should only be vaccinated when in apparent good health, except in circumstances in which they have

been exposed to small-pox. Children suffering from diarrhea, skin diseases, and chafing behind the ears, in the groins, or in the folds of the neck, should not be vaccinated, except in extreme circumstances. Inasmuch as more than one-fourth of the deaths resulting from small-pox occur in children under one year of age, it is important that vaccination should be performed when the child is quite young, provided its health will permit. Dr. Seaton, in his comprehensive work on this subject, recommends that plump, healthy children, living in large towns, should be vaccinated when a month or six weeks old, but that in more delicate children the vaccination should be deferred until they are two or three months old, but all excepting those whose state of health contra-indicate, should be vaccinated at the age of three months. It is always best to vaccinate early enough to avoid the period of dentition.

The lymph to be used in vaccination should always be taken either directly from the cow, or from a healthy child. The initial factor in this discovery was obtained by observing that dairy maids contracted a disorder from the cow which rendered them unsusceptible to an attack of small-pox. Taking hold of this idea, and following it by various experiments, Jenner arrived at the conclusion (1) that cow-pox, communicated to man, has the power to render him unsusceptible of small-pox; (2) that the specific cow-pox alone (and not other eruptions effecting the cow, and which might be confounded with it) had this protective power; (3) that the cow-pox might be com-

municated at will from the cow to man by the hand of the surgeon, whenever the requisite opportunity existed, and (4) that the cow-pox, once engrafted on the human subject, might be continued from individual to individual by successive transmissions, conferring on each the same immunity from small-pox as was enjoyed by the one who was first infected direct from the cow.

The present method of obtaining the virus with which to vaccinate is to inoculate a healthy cow with small-pox, and induce the disorder of cow-pox. The lymph from the vesicles of cow-pox should be inserted into the organism of a healthy child, and the lymph-crusts produced by this means may be used to ingraft the disorder in other individuals. The vesicles may be characteristic of the disease, and fully formed, which is six or eight days after the vaccination ; if the crust be not taken until the bright inflamed ring around the vesicle is complete, its protective power against the disease is very much lessened. Prime lymph is more or less sticky. If it be thin and watery, it should be rejected. The best vaccine material is taken from babies still upon the breast, with dark complexion and smooth skin, and who are free from all evidences of strumous affections. The most efficient method of vaccination is that of passing the lymph directly from the arm of one child to that of another, as it frequently happens that the virtue of the lymph is lost in the attempt to preserve it. A good vesicle, freely punctured, will exude sufficient vaccine material for the direct vaccination of half a dozen children.

The ability to vaccinate requires but little skill, yet some general directions may be necessary in order to insure success. The lymph should be inserted under the cuticle in the true skin, so as to be brought in contact with the absorbent vessels, and thus carried into the circulation. Care should be taken to not induce much bleeding, lest the lymph be washed away by the blood. Various instruments have been invented with which to perform the operation, but almost any kind of sharp instrument may be made to subserve the purpose, provided it be clean. The position usually selected is upon the outside of the arm, below the shoulder. The importance of the uniform location upon the individual for the introduction of the lymph is manifest. It renders easy subsequent examination to ascertain if the individual has been vaccinated, or if he have the characteristic mark left by the vesicle.

In performing the operation, the skin should be held upon a stretch. With a sharp, clean lancet, well charged with lymph, held at an angle of 45 degrees, make several punctures from above downward. The pocket thus formed will retain the lymph. These punctures may be half an inch from each other. If the lymph be preserved on "points," as is sometimes the case, the "points" should be exposed to a current of steam until the lymph is dissolved, and then introduced into the punctures or pockets made by the lancet. Others make a number of parallel scratches, and across these make a like number of parallel scratches, and then apply the lymph with the flat side of the lancet, rubbing thoroughly into the skin. Many

persons make these scratches quite successfully with a sharp needle.

At the end of the third or fourth day, if the operation has been successfully performed, the skin at the spot becomes slightly elevated, hard and red. On the fifth or sixth, a vesicle of bluish-white color arises, which presents an elevated edge with a cup in the center. It fills up with clear lymph, and is matured about the eighth day. It is surrounded by an inflamed ring or areola. On the ninth, tenth or eleventh day the vesicle becomes a pustule, the cup disappearing, and the areola enlarges until it becomes a circle two or three inches in diameter. In the following two or three days the pustule dries up, and, in the course of a few days, or a week at most, it falls off. There remains a cicatrix, or scar, which is usually permanent, circular, somewhat depressed, and covered with small dots or pits. In the case of young children these marks may disappear late in life.

Accompanying the development of a pustule there is more or less constitutional disturbance, indicated by restlessness, headache, increase of temperature, and derangement of the stomach and bowels, and occasionally some swelling under the armpits. These symptoms are at times quite severe, and are seldom entirely wanting. Cases are sometimes met in which these symptoms are more or less modified, either by being retarded or accelerated, irregular or spurious, and it should not be forgotten that any vaccination deviating from the perfect character of the vesicle and the regular development of the areola, is not

to be relied upon as protecting against small-pox. As a general rule, neither the local nor constitutional symptoms require any treatment, but will run their course and subside.

All persons vaccinated in childhood should be vaccinated at puberty. The second vaccination should be performed with the same care as the first, and should not be neglected until some epidemic of small-pox exists. In epidemics of small-pox everybody should be vaccinated to insure safety. Vaccination in early life is not always immunity from small-pox in advanced life, neither does small-pox itself always protect from a second attack.

Learning to Walk.

When the infant is a few months old, depending upon its general vigor, it may be placed upon the floor, on a soft mat or carpet. It will be free to toss its limbs about and develop the muscles which are soon to be brought into requisition. Its naturally restless disposition will be dissatisfied with one position and one location, hence it will soon be found upon its stomach, reaching out its hands, like a boy learning to swim, drawing up its legs and stretching them out again, and in a very short time will have learned to crawl.

This will exercise every muscle of the body without fatigue. It throws no weight upon the bones of the legs, but only imparts vigor and strength, and is highly useful. Having made this progress, its restless nature is still unsatisfied, and laying hold of some object, say a chair, it

will endeavor by this aid to lift itself upon its feet. It is not easily disheartened. Though it fall again and again, it will persevere until by this means it learns to raise itself upon its feet and stand, but not without holding to the chair.

It will now soon be found lifting its feet alternately and replacing them upon the floor. Next it will shove the chair from it, keeping hold with its hands, and draw itself up to an erect position. After a few experiments of this kind, it may let go of the chair to examine some object that may have been put in its way, and then will laugh at its ability to stand. This adventure it will repeat, day after day, with increased exultation, until, after frequent trials, it becomes more confident of its ability to balance itself, and lets go of its support entirely and stands alone.

Time only is required to accomplish this natural process, by which the bones and muscles are strengthened and made able to bear the weight of the body as soon as the child has gained sufficient courage to warrant it to trust itself. It is not merely a lack of strength that prevents a very young child from walking. The curved slope of the legs causes the soles of the feet to face each other, and they cannot adapt themselves to a horizontal surface. Some time is required to change the position of the feet, so they may be fitted for support and locomotion. The first efforts of a child in learning to walk should be carefully watched, so as to protect from injury, but not to afford any especial assistance.

THE CHILD.

General Causes of Diseases Resulting From Errors in Diet.

HAVING, in the remarks on food of infancy and early childhood, given such advice and warnings as may be necessary to a proper understanding of the healthful needs of the system in early life, a few further suggestions on the use and abuse of food in more mature life are proper.

Food has two great offices to perform — first, to maintain the heat of the system, second to supply waste, and, in the young, to provide for growth. Without the first the temperature would fall below the standard of health; without the second, the consumption of the body would be effected.

Much has been said by physiologists about the absolute amount of waste that goes on in the body every twenty-four hours, hence the large quantity of nutritious material necessary to keep up the supply. But, since all of the nutriment does not pass in through the mouth, it is impossible to make an exact calculation. The skin not only secretes fluids, but is a powerful absorbant. This may be demonstrated by taking the weight of the body before a meal and one hour after. The increase in weight will be greater than the amount received by the mouth. This is

an additional reason for having said so much on the subject of baths, that the skin may be free to discharge its proper functions.

It will be impossible to lay down any infallible rule as to the amount of nutritious material that should be daily taken into the system, as so much depends on exercise, labor, atmospheric conditions, evaporation, etc. Nature has made some provision for slight excesses by the excretions and the storehouse of deposits. The old adage is "Bread is the staff of life;" but the Bible says "Man shall not live by bread alone." If you give this a natural signification, it implies that something else is needed for the food of man. What is that something? Milk, fat and fluids, as water. In these we have all that is required. There is starch for the body-food; albumen for tissue-repair in the glutine; there are the earthy salts, and the fat, which is partly consumed in body-fluid and partly employed in building healthy tissue. Let us take a mouthful of bread and butter and trace its history through the system, thus learning to admire the wonderful operation of Nature in the constructive metamorphosis of the human economy. On being placed in the mouth for mastication, it excites a set of glands that pour out a fluid called saliva, which on being brought into contact with the starch granules, and the conversion of insoluble starch into soluble sugar is begun. When the food is swallowed a new action is set up. The soluble parts of the food pass through the gastric vessels into the portal vein, leaving the undissolved portions behind. The acid

gastric juice acts upon this residue, and by dissolving it liberates the remaining starch granules that had escaped the action of the saliva. When this pulpy mass passes out of the stomach, through the pyloric valve, into the duodenum, or, as it is sometimes called, the second stomach, it meets some additional fluids called pancreatic juice and bile, when the most active part of digestion is set up. The liberated starch granules come in contact with the diastase of the pancreatic secretions, and are by it converted into soluble grape sugar — the fat into emulsion. In this condition, by the action of numerous absorbing vessels, it is carried through the portal vessels and mixed with the blood and thus supplies the waste produced from the "wear and tear" of the system. This is the disposition Nature makes of bread, to supply the carbo-hydrates (starch and sugar) albuminoids, fat and earthy salts.

No matter what art or skill may be called into exercise in the preparation of food to satisfy the vitiated appetite, these are the essential elements of the food of man, and everything he eats necessary for his sustenance must undergo this chemical analysis before it can be utilized by his organism. The carbo-hydrates form the body-fuel. The overplus is stored as fat. The albuminoids repair the wasted tissue. The salts form the blood-salts. The fat helps to build up the normal health-tissues. The excess is burned as fuel. This is the legitimate object of food.

The cook, however, goes forth into the great storehouse of Nature, gathers alike from the animal and

vegetable kingdom, exercises in the preparation of food all the skill of his art, and in it all accomplishes nothing more than the savage. Hunger compels the individual to take food to fill the stomach. The palate guides him in his choice. If the food be simple, there is little or no temptation to over-indulgence. But, through the ingenuity and advice of the culinary art, his judgment is dethroned and appetite yields to temptation, just as it did at the dawn of our race, when it was declared that "the tree was good for food."

Man must eat to live, but not live to eat. The object of food is simply the support of the body, and not the gratification of the appetite. Having said this much on the subject of food and the form it assumes in order to be assimilated, that the continual waste going on in the system may be repaired, some further remarks on some of the more common kinds of food and best methods of preparation are deemed necessary, that the end sought may be better attained.

Following the index of Nature, meat should not enter into the dietary of children until after the development of the canine teeth. Especially is this true, if the meat be not thoroughly cooked. Various methods of preparing meats for the table have been introduced by the culinary art. One of the most ordinary is by boiling. Two ends must be kept in view in boiling meat. If the liquor in which the meat is boiled be intended to be used as soup, by adding simply some savory condiment or vegetable, the meat should be put into cold water and all brought to

the boil, sufficient water only being used to cover the meat, keeping up the waste caused by evaporation by the addition of water from time to time, as may be necessary. This liquid may be served either with or without vegetables, and may prove to be both palatable and nutritious.

It will be observed that the meat has lost whatever the soup has gained by this process. If the meat be the first consideration, then the water must be boiling when the meat is put in it. When it is thus introduced into boiling water, the albumen of the flesh is immediately coagulated on the surface to a certain depth inward, thus forming a skin or shell, which no longer permits the juice of the meat to flow out, nor the water to penetrate into the mass. The flesh continues juicy and as well-flavored as it can possibly become. Meats so prepared will be found much more palatable than if placed in cold water.

Another very common and perhaps the most ancient method of cooking meat is by roasting. The savage could put a piece of meat on his stick and expose it to the fire, turning as was necessary until cooked. Civilization invented "spits," and dogs were utilized as "turn-spits" to keep the meat turning before the fire, but basting is also necessary to keep the meat from burning. It requires more time to roast than to boil meat. Fresh meat is better suited for roasting and salt meat for boiling.

Similar directions should be observed in roasting as in boiling meat. It should at first be subjected to a strong heat, that the albumen on the surface be speedily coagu-

lated and the escape of the juices speedily arrested. The basting should be assiduously attended to. Meat should be roasted either in front of an open fire or what is called a "reflector" in a range. Some cooks place the meat in a close oven, and bake rather than roast it. Meat treated in this way loses less weight than by any other method, but what is gained in weight is lost in flavor. Broiling is a very savory method of treating meat, and when properly done renders the food quite palatable. Frying flesh, except it be bacon or ham, is an abuse of the culinary art. It is, however, a very admirable way of treating fish. In whatever way meat is prepared for the family it should be cooked. The practice of eating raw meat belongs to barbarous tribes. In cooking meat there is no change in its life-giving principle, but the muscular fibers are loosened by the action of heat, while the coagulation of the albumen renders the fibers more brittle. Consequently, cooked meat is more easily masticated than raw. Further disintegration is facilitated, and disintegration precedes solution, and solution precedes absorption, and absorption precedes assimilation.

Bread, which enters more largely into the food of man, being styled "the staff of life," was first made from bruised grain, and contained all the elements of that cereal. But cooks, long before chemistry was able to point out their error, became dissatisfied with the color and quality of the food thus made, and influenced the manufacturers of flour to devise some means to remove the external coat and thereby improve the color of the

flour. By so doing they unfortunately get rid of the salts, to please the eye at the expense of the well-being of those who were to be fed from bread deficient in very important elements.

An erroneous taste dies hard, hence every attempt to turn to the use of "all-wheat flour" has met with little success. Those only who have become invalids by the free use of those improvements of art, and can no longer indulge in such refinement, can be induced to return to "the good old way."

Flour, as at present made, is much inferior for life-supporting purposes to that in earlier times. It is not only deprived of its blood-food in the loss of the bran, but also its nerve-food in the loss of the germ. In order that flour be properly utilized, it is necessary to convert it into bread. How is this accomplished? Mixed with water, a little salt and yeast, flour made into dough was placed under the influence of moderate heat, and on becoming spongy or light is made into loaves and baked. This baking process converts some of the insoluble starch into soluble dextrine. The higher the temperature, the longer the time the bread is exposed while baking, the greater will be the quantity of dextrine formed, and the more easily will the mass be digested and assimilated. For the same reason the crust of bread is the most healthy for children and persons of weak digestion. Newly-made bread is poisonous to most dyspeptics. From its moist nature it readily goes into a pulp in the mouth, while stale bread is dryer and of firmer consistency and does not

easily lose its spongy nature. This every cook has observed in attempting to make bread dressings. Hot rolls are toothsome, but not easily digested. When flour has been mixed with fat, as lard or butter, as is done in making pastry, the starch and fat are so intimately mixed and incorporated that the saliva cannot get at the starch-granules because they are enveloped in fat. Consequently, there remains the insoluble starch and fat to produce the stomach-ache.

Corn bread is now directed to be made by mixing up a thick batter, placed in earthen molds and baked quickly, less than half an hour. Then it is usually eaten quickly; but little time is given the saliva to act upon the starch. Is it a surprise that the outraged stomach soon rebels? Imposed upon by such large quantities of unchanged starch, how long can it be expected to endure such abuse?

It should be remembered that the albumen of corn is not gluten, hence will not alone make good bread, especially when it is only exposed to the heat for such a short time. It would be found much more digestible if combined with wheat flour. The old method of preparing "Johnny-cake" made much more easily-digested bread. The meal was mixed into a thick mass with water, spread thinly on a board, and placed before an open fire until well browned, then turned over, exposing the other side in the same way to the fire, until the whole cake was thoroughly browned. This long exposure to the intense heat set free much of the insoluble starch. Besides, the

bread, being quite hard and dry, required much longer time for mastication, mixing it more thoroughly with the juices of the mouth, and relieving the stomach of much labor.

It is not the purpose of this inquiry to go over in review all the cakes and puddings that have been introduced into the dietary of this civilization. Suffice it to say that these are largely unfit to be placed in the stomach of either children or adults. Doctors and vendors of patent nostrums for the cure of the ills these toothsome dishes daily manufacture are furnished with plenty of business.

Starches of various kinds are used in milk for puddings, and make an admirable dish for children and dyspeptics. Starch manufactured from corn is found in many kitchens. There is the starch of sago, rice, tapioca, etc. The application of heat to these articles of food before adding the milk would greatly facilitate the conversion of starch.

Dr. Fothergill gives a formula for making the most perfectly-digestible milk pudding : Add some ground malt to baked starch ; then pour over some warm milk ; stir the whole together and set in a warm place before putting in the oven.

The potato lies midway between starch and vegetable. It is very rich in starch, so that boiled potatoes mashed are frequently mixed with flour in preparing bread. In none of the vegetables is there a greater necessity for cooking than the potato. It is transformed from a hard,

indigestible mass to a ball of flour. Much has been said about the different methods of cooking potatoes. Some bake, some boil, some steam, some pour off the first water, others pour off the water when the boiling is completed, and leave the potatoes a little time in the pan to evaporate the remaining water; some mash the potatoes and add cream and butter. There is but little difference in these methods, and the cook is safe in adopting that one by which is produced the greatest disintegration of the naturally hard, indigestible mass.

Vegetables should occupy a much larger place in the diet of families than they do. Many of them, as the roots, abound in starch and sugar, while others, as cabbage, cauliflower, spinach, lettuce, celery, etc., are rich in alkaline salts and alkaline earths. The old-fashioned "boiled dinner" united in cooking the meat and vegetables; that which is lacking in the meat should be supplied by the salts of the others.

Vegetables, to be palatable, should be ripe and fresh. They are succulent and lose water rapidly; dryness renders them unfit for food. They should be fit to cook in boiling water, great care being taken to cook until done and no longer. They are very unpalatable if raw, and if left too long over the fire they lose all their flavor.

Many vegetables are eaten uncooked in the form of salads; others alone. Many of the salads are quite indigestible. A great variety of dressings have been introduced for salads. A rule is found in the Spanish proverb, "To make a perfect salad there should be a miser for oil,

a spendthrift for vinegar, a wise man for salt, and a madcap to stir and mix all together."

Fruits form another factor in the food of man. They are certainly wholesome if eaten in limited quantities and at proper times. Either unripe or over-ripe fruit is unfit for the human stomach, and should be rejected. Fruits should be eaten generally at meals, and but little danger should be feared of eating too much. Many of the small fruits that are used as desserts are very palatable, and thus eaten are not objectionable. Persons differ widely in their choice of fruits. Cotton's mother said: "Doubtless God could make a better fruit than a strawberry, but doubtless He has not." Others, however, might prefer the raspberry, blackberry, grape or orange. Fruit contains sugar, acid, and alkaline salts. The influence of the alkalies is shown in a decisive manner in the effects produced on the salts of our organic acid in the circulation. It has long been observed that after eating juicy fruits, cherries, strawberries, apples, etc., the urine becomes alkaline. The utility of such foods in persons disposed to gout and rheumatism is apparent, and persons thus afflicted should use fruits freely and teach their children to follow their example, thus saving doctors' potions in after-life. This makes plain the theory of curing rheumatism by eating lemons.

The normal functions of the stomach are not only affected by the quality of the food eaten, but by the quantity, the nature and the amount of exercise taken, the length of time intervening between meals, the general

state of health, the condition of the mind, climate, etc. By having a general knowledge of the digestibility of the different kinds of food when the system is in health, the observing may discriminate properly and select only that which is most easily digested and most appropriate when the eater may be out of health.

In the experiment of Dr. Beaumont it was discovered that indigestible substances in the stomach interfere with the process of assimilation of that part more easily digested. This being true, how easily may we retard the assimilation of a fairly-digestible meal by the addition of an unhealthy dessert? Experiments have farther proven that the temperature of the stomach is lowered by the free use of ice-water either during meals or after, or ice-cream for dessert, as is common. The process of digestion will, for a time at least, be stopped. It was observed by the authority above quoted that the injection of a gill of water, at a temperature of 50°, into the stomach of a patient at St. Martin's, sufficed to reduce the temperature of the stomach 30°, and was not restored to its normal condition for more than half an hour. It will be observed that the cooling of the stomach lessens its activity, and that at a time when it most needs heat; frequently repeated, it cannot be otherwise than fraught with inestimable danger.

If the food taken into the stomach be not digested, it ferments and rots, and is in this state of decay carried into the blood to supply the waste going on in the body. As well might one undertake to make a substantial

building out of rotten material as to make healthy tissue out of such nutriment. The normal blood corpuscle in a healthy condition is spherical, and flows smoothly through the ramifications of minute vessels. By this process the most delicate tissues are supplied with its life-giving principle. But if it be damaged in its manufacture, through any defect in the process of digestion, its globular form is changed into variable-shaped; it does not flow so smoothly, becomes clogged in the minute vessels, and thus failing to make its circuit, likewise fails to carry the much-needed supply to that part in the body.

Conditions of the Mind.

It was said that the condition of the mind has an influence on the digestive process. The old adage, "Laugh and grow fat," is more truthful than poetical. Nothing conduces more to perfect digestion and complete assimilation of food than a happy and cheerful disposition. The man who is always on good terms with himself and his business, and has no quarrels with his neighbors, will almost certainly steer his digestive organs safely past all the shoals and rocks that are covered up in the sea of life.

But, in the busy struggle for existence at the present day, when the battle of life is not so much fought by muscle and sinew as by the brain, the demands upon the nervous system are more excessive. "The spirit indeed is willing but the flesh is weak." Certainly the spirit is so willing, that even the strong must give way. No matter

what power of endurance the body may possess, its driving and restless tenant will exhaust them. The old adage is true: "The sword will wear out the scabbard." This is especially true of persons with large, active brain, and light, delicate body. Their restless and driving disposition will be followed sooner or later with a breakdown. The assimilative organs cannot supply the means of nutrition to the nervous system in sufficient quantity. The reserve forces of the system become exhausted, and the brain-power fails. The work that was accomplished with alacrity and ease, becomes a wearisome and grievous task, and soon the attempt to discharge the duty is an utter failure.

Such cases fall under the observation of the busy practitioner almost daily, and are growing fearfully prevalent. Such patients can only be restored by long rest and a liberal supply of good brain-food.

In commercial parlance one would say: "That individual has evidently drawn a bill upon himself — borrowed so much of his intellectual capital ; the bill has matured and must be paid. This is followed by a long, hard process of paying back into the body-bank, till the working capital is once more sufficient for competent action. There has been a body-expenditure in excess of a body-income, and the reserve body-capital has been heavily drawn upon, until it is no longer able to meet the draft. The only remedy in such dilemma is to cut down the expenditures to the minimum amount and increase the income to its maximum, until a new balance of capital shall be obtained."

This is the method adopted in the business world. If a man exceed his income and get in debt, he must become more economical, live on less until he gets out of debt, and then he prepares to live better. When the pabulum of the brain is exhausted, a long process of recuperation is necessitated. "How is this best accomplished?" is the question that presents itself to every intelligent physician, and meets the ready answer, "in rest and nerve tonics — medication and alimentation." The kind of food best adapted to such patients has been demonstrated, not only by chemistry but experience, to be fat and fish. Fish abounds in phosphorus, and a phosphorized fat must be supplied to the nervous system. It is no difficult task to furnish these materials, but to build them into the animal economy by the process of assimilation often requires time. Much depends upon its recuperative powers. If they be feeble, much time will be necessary for the accumulation of a sufficient store for working purposes. On the other hand, if they be fairly vigorous, a comparatively rapid progress is possible.

Watch carefully the ability to digest food; do not eat too much at a time, but more frequently. Let fish form a prominent part of the diet. Milk puddings answer well. Cream with lime-water is excellent. Cod-liver oil and oil emulsions suit some quite well. This is the line of treatment that experience has demonstrated as most suitable. The old theory of meeting this wasted and exhausted condition of the nervous system by liberal supplies of lean meat has proved abortive.

Much of the foregoing remarks on nervous exhaustion and nervous supply will be found applicable to men as well as women.

Food of School-girls.

A few remarks on the regimen of school-girls before this subject of food is past. It is the idea of many girls, at the present day, that elegance involves fragility, and that to be robust and rosy-cheeked is to call forth the derision of their school-mates, with the crude satire of "fat enough for butchering." To a false idea of appearance, many sacrifice their health. In order to acquire pallor and get rid of the hue of health, some girls take an excess of vinegar, and attain their end by destroying their digestion. Others eat slate-pencils, chalk, etc., imparing their digestive powers from congestion and inactivity of the bowels, which is aggravated by lack of out-door exercise, and the compression of the viscera in order to secure a grace of figure. Add to this the insufficiency of nutritious diet, and you have laid the foundation for delicate maidens and worthless women.

The mistaken idea of not providing a sufficiency of nourishing diet for the young is much more prevalent than it ought to be, particularly in female boarding-schools, where the diet is often insufficient for daily sustenance and growth, and where, consequently, the characteristic aspect of impaired health, if not of actual disease, is marked in most of the pupils. So defective, indeed, is the common-school management in this and

other respects, that we have the best authority for considering it a rare exception for a girl to return home in full health after spending a few years in a boarding-school. Much of this may be the result of confinement, want of cheerful exercise, ill-ventilated rooms, and other depressing influences, but to all these you may add insufficient dietary acting with increased force on the impaired digestion, which always follows where the laws of health have been outraged.

General Causes of Disease.

A condition of health is that in which the physical economy is in such harmonious activity that each organ performs perfectly its peculiar functions. Health is the normal state. Evidence of this appears in the efforts which Nature makes in disease, local or general, to return to the healthful state. If, for example, the flesh be lacerated, there will soon be increased heat in the injured part. This is caused by increased supply of blood to that part, blood being the material out of which Nature builds or reconstructs the physical economy. This increase of blood or congestion of the parts is followed by inflammation. The lacerated parts, through which circulation is interrupted, die for lack of nourishment, and slough away in the form of pus. Underneath this slough will be seen little nodules which are called granulations, filling up the interstices unceasingly, continuing this operation until all the parts are fully reëstablished, when the whole work stops, without any disposition to build a single atom more

than was absolutely necessary to supply the part destroyed.

Health, then, being the normal, or natural condition, it follows that disease must be the abnormal or unnatural state. Health is secured and maintained by the rigid adherence to the laws established in Nature for that end. Manifestly, disease must be incurred through the violation of some law of natural hygiene. Disease is the penalty attached to Nature's laws of health. No law, natural or civil, can be effective without penalty attaching to its infraction. Providence has put into our hands the means of health. It is a precious boon.

This involves a great responsibility. Health is manifestly among those talents that the Good Man left us in charge of on taking his journey, and he will surely call us to account on his return.

The study of the physical law of being is one of the first duties. It will be attended with the greatest blessing. It is a solemn truth, and one that should be forcibly impressed upon both young and old until they become thoroughly familiar with it, that for the most part we bring upon ourselves the diseases we suffer. If they be not the effect of imprudence they are traceable to the neglect or ignorance of the guardians of our youth, or they are entailed as a consequence of the violation of some physical law by our parents. Whatever may be the source of disease it is manifestly a penalty for the violation of Nature's laws.

Take, for example, a young girl, bred in high life, shut

up in the nursery in the city where she cannot be well exposed to the pure stimulus of fresh air during her childhood. She spends her youth in a fashionable boarding-school, and is never accustomed to either air or exercise, which the law of Nature makes essential to health. The period of puberty approaches, the hygiene of her surroundings is unfavorable, the necessary nourishment and stimulus for the establishment of instruction is wanting.

This adds additional fuel to the fire that is consuming her constitution. She enters the social concourse of the young and gay at some fashionable gathering. Her shoes are thin, her dress is light, her neck and arms are bare. She indulges in the amusements of the evening where the room is warm and close. No sooner is she at liberty to retire, feeling faint and feeble, than she hurries into a current of cool air and is soon chilled. Her delicate system has no adequate power of resistance ; perspiration is suddenly suspended, a cold, cough, fever and death follow in the wake. Her schoolmates and acquaintances lamentingly exclaim : " What a strange Providence, that a girl so young should be thus cut down ! " Providence has no action in the matter. She violated every known law of health ; each violation is followed by the execution of the fixed penalty.

Call in prominent view if you please the daily life of some of the daughters of our men of wealth, and gaze for a moment upon it in detail and see what it is. From morning till night, day after day, there is the same round

of nothingness, the same comparative absence of physical exercise and mental recreation, the same listless, sluggish, stagnating existence. With servants to render all manual labor, and frequently household cares unnecessary, with no particular object in life to awaken interest, they pass day after day without any physical exercise more invigorating than a stupid walk up and down the street, and with no mental employment more inspiring than the reading of a few indifferent novels, the making of idle morning calls, or the spending of an evening at a ball where late hours, thin dresses, excessive dancing and improper food and drink do much more injury than most people know. Now, did God ever intend the girls, even of the rich, to live thus? Is not wealth, when it leads to such habits, a curse rather than a blessing? There is no truth better established, both by theory and observation, than the fact that a certain amount of both physical and mental labor is necessary to the enjoyment of continual health by either sex.

Upon the other hand, the girls who fill a moderate station, or, in other words, are compelled by necessity to work without having to overtax themselves, almost invariably enjoy good health. When they do not, their maladies may generally be traced to some constitutional infirmity transmitted from their parents, as consumption, debility, scrofula, or other hereditary taint. Farmers' daughters who are accustomed to a certain amount of invigorating exercise, which girls reared in town consider ungenteel, are usually healthy and able to accomplish a large amount of work.

If we were able to so thoroughly impress this truth on the minds of the youth that they would be influenced by it, we might do much in revolutionizing society and preventing disease.

Beauty cannot be attained independently of health, and health cannot be enjoyed without exercise or labor, either mental or physical.

Errors in Dress as Causes of Disease.

The follies of fashion, especially as practiced in the higher walks of life, are exceedingly deleterious to health in childhood. The custom of heavily and warmly covering the body while the legs are almost entirely exposed to the temperature of the atmosphere, be it high or low, is fraught with serious consequences to the health of fashionably-clothed children. The child thus dressed goes and sits on the ground, the temperature of which is low and damp, and is robbed of some of the heat of the legs and lower part of the body. So the child goes, thus dressed, from year to year, without much difference in her apparel, the dress of the lower half of her body being much less comfortable than the dress of the upper half. The putting on of an extra skirt does not materially help this difference. The skirts are so short that they cannot be considered sufficient to keep a child warm any better than an umbrella above its head. The cold air must necessarily get under the skirt, and the warmer the body the quicker the air will rush up — on the principle of a flue. In this way the temperature of the body of the

girl from her waist down is, from year to year, kept several degrees lower than that of her body from her waist upward.

This is attended with most serious consequences. Cold contracts the skin, veins and arteries, and forces the blood from the surfaces. Put your hand in ice-water for a few minutes, and you will see it shrunken and colorless, for the blood has been driven out of it. This process is going on all the time during which the child is less warm in one part of the body than in another. In the coldest part the circulation becomes slower as the blood is driven away, thus destroying the equilibrium of the circulation. But where driven? To the other parts of the body, where it is not needed, producing in such parts an excess, causing passive congestion.

What is the first ill effect produced? Constipation. The bowels, like the stomach, have their functions to perform in the process of digestion; they require a quantity of animal heat and unobstructed circulation of the blood. But exposure of the surface of the abdomen causes great evaporation of needed heat. The cold drives the blood to the interior, causing a clogging-up of the internal circulation. The digestion, robbed of the heat needed, becomes gradually slower and delayed, and as a result we have constipation. If this be not true, why is it that four-fifths of all the women are constipated? Because their dress is calculated to keep an unequal temperature in the body, impeding the circulation. Witness the children of the poorer class. They may be

exposed as much, nay, more than those of the wealthier class, but their exposure is not partial. If they be thinly dressed, they are so from head to foot. If they have no drawers, they have no flannel shirts. If they have no shoes, they have no covering for the head. Hence, there is no inequality in their dress, making one part of the body warm at the expense of the whole system.

Amusements.

Amusements play no insignificant part in the development and training of youth, both physically and mentally. Much of the time in early youth cannot be more usefully employed than in those kinds of amusements which will bring into play the muscles of the body, and at the same time engage the mind with pleasing diversion. These will be found, if prudently practiced, to contribute much in laying the foundation of a healthy body, upon which alone rests the whole superstructure of a happy and useful life.

To deprive the young of the innocent pleasures of childhood is by no means the most trivial mistake that parents can make. Nevertheless we not infrequently meet with parents who think it their duty to arrest the naturalness, lightness and gaiety of heart in their children, lest they should become too fond of pleasure. Great harm is often done, in this way, to both mind and body, and the very fault is created which it is desired to avoid. The more reflecting parent, however, sees in the games and plays of his children not only the necessary amuse-

ment and recreation to develop the physical nature, but a benefit in the mental and moral development of their being.

There are numberless devices for the amusement of children that even at very early age develop important elements in the human mind. There are blocks or cubes made of wood, upon the faces of which are printed letters, figures and drafts of architecture, with which a child, though very young, will soon learn to amuse himself in constructing words, making larger cubes out of the small ones, and placing them together in such order as to reproduce the piece of architecture that was cut to pieces by dividing the blocks. Another very entertaining and profitable device is a large sheet of paper board, on which have been printed a number of animals with which a child is familiar; then the board has been divided into a number of pieces, no two of which have the same shape. Have the child put the pieces together, so as to reconstruct the animals. Such amusements will do much to develop the attention and memory of the child, besides affording employment and relieving the nurse of much trouble.

That important personage, the doll, affords pleasing amusement for children that are quite young. A love of the miniature baby is always worthy of cultivation in a child. Perhaps there is nothing to which even a very young child clings with such ardent devotion as to a doll baby. To encourage her in this direction may instill in her youthful mind something of the watchful, maternal

habits which will secure the happiness of her family in after-life. In dressing the doll, and in cutting and fitting its clothes, the child will often acquire a skill with the needle that will prove invaluable in two or three years.

Then there are the more active amusements adapted to the demands of Nature, as the child advances in years — ball, skating, croquet, blind-man, the hunt, etc. Such games bring the muscles into proper action and thus cause them to fully develop. They expand and strengthen the muscles of the chest, causing a free circulation of the blood, making it bound freely through the vessels, diffusing health and happiness in its course. If games were more patronized in youth, the number of nervous, useless persons would be greatly diminished. Let your children have plenty of plays and they will have a corresponding amount of health and vigor, and in due time they will be ready and able to have their minds properly cultivated.

Unfortunately, there is a growing disposition, even in this enlightened age, which cannot be too strongly rebuked, to commence at the wrong end and train the mind first, leaving the cultivation of the body to take care of itself. The result is we reap the harvest from the seed sown — a broken-down stalk to support a full head. Properly-timed exercise will do much to expand the chest by compelling a full inflation of the lungs with the pure air of the lawn or forest. This is their food, and if food be supplied in sufficient quantities it must be distributed to every portion of the lungs. If not, suffering and disease will be the result. Croquet is a pleasant and

healthful amusement for girls. It develops and improves the muscles of the arms, beautifies the complexion, strengthens the back, throws out the chest. Croquet is for girls what cricket is for boys — a glorious exercise. It has brought as much health and happiness as any other game ever invented. It is always a cheerful game, and a "merry heart makes a fair lassie." Skating, when not indulged to extremes, is a most excellent exercise. It improves the figure, and makes a girl balance and carry herself upright and well, is quite becoming, and is to be commended.

Moral Training.

No education is complete which does not include a due regard for those moral faculties, known under the names of Inclination, Duty, Conscience, etc. — in short, what is known as the moral character. Health and happiness here, and bliss hereafter, are dependent on the best of these faculties. Of what avail is a robust physique or a brilliant intellect if there be no ballast of moral rectitude? Many a parent has lived to ardently wish that his son or daughter had died in youthful innocence; and many a heart has been bowed to the grave over grief and anguish for a wayward child. Such parents realize, perhaps, when it is too late, that they are responsible for the sad fate of their child. Once he was theirs to develop and mold. They neglected the soul culture. They built a noble bark and started it out under fair prospects. But, alas! there was no rudder. It became a sport for winds and tides.

The storms of passion and the seductions of temptation soon drove it from the path of rectitude. It was cast upon a barren shore, a battered wreck, or it was swallowed up in the fathomless vortex of sin and shame.

What has been may be again. Nay, it must be, if the education of the intellectual emotions be neglected or improperly conducted. Such a nature inheres in the constitution of every sane child. It has susceptibilities, capacities and fertility. Like a garden of rich deposit — if nothing useful be planted and cultivated, noxious and hurtful weeds will spring up spontaneously. The moral nature will not remain undeveloped through neglect of education. It will develop spontaneously, but in unequal directions, and with dangerous bias.

At birth the brain, the organ of the mind, is imperfect. It is unfitted for any active manifestations. The only indications of consciousness observable are a sensitiveness to pain and a craving for food. The latter, and the former too, for the matter of that, in dignity hardly rise above mere animal instincts or appetites. No real traces of the intelligent, sentient mind, with its stupendous faculties, and of the soul with its fathomless profundities, are discernable. The brain is extremely delicate and is easily injured. Injuries sustained at this immature stage may, like those inflicted on the eye or ear, be permanent and irremediable.

After a time, however, there are signs of awakening intellect. Looks, smiles, frowns, will evidence the dawning of consciousness long before the child can give any

other token. It cannot know, and, of course, cannot evince any regard for the causes which excite its natural activity. Still, the activity is there. Its signs can be read in the countenance. "These," says a French writer, "are the evidences of dawning affections. Even at the early age of six weeks, when the infant is still a stranger to the world and perceives external objects so indistinctly as to make no effort either to obtain or avoid them, he is, nevertheless, susceptible to the influences of human passion. Although no material object possesses any attraction for him, sympathy or the action of a feeling in his mind, corresponding to the expression of the same feeling in the mind of another, is already at work. A smile, a caressing accent, raises a smile on his lips. Pleasing emotions already animate this little being, and we, recognizing their expression, are delighted in turn. Who, then, has told this infant that a certain expression of the features indicates tenderness for him? How could he, to whom his own physiognomy is unknown, imitate that of another unless a corresponding feeling in his own mind impressed the same characters on his feelings? That person near his cradle is perhaps not his nurse; perhaps she has only disturbed him or subjected him to some unpleasant operation. No matter; she has smiled affectionately on him; he feels that he is loved and he loves in return."

Here, then, is the key to the right training of the infant mind. The internal emotions are like the external senses. Being distinct from each other and independent in their actions, let the appropriate object of any of them.

the organ of which is already sufficiently developed, be presented to it, and it will start into activity, as the eye does when the rays of light come in contact with the retina. Look, for example, at an infant six months old, and observe the extent to which it responds to every variety of stimulus addressed to its feelings. If we wish to soothe it in a moment of fretful disappointment, do we not succeed by gently fondling and singing to it in a soft, affectionate voice? If our aim be to arouse it to activity, are not our movements and tones at once changed to the lively and spirited? When a sharp dialogue occurs between a nurse and any other person in the presence of the infant, is it not common for the child to become uneasy and cry, as if the angry expressions were addressed to itself?

The facts of common observation are explained when it is remembered that the emotions are reached only through the senses. An emotion of pleasure or of pain is created by the perception through some sense — as of sight, or touch, or taste, or smell, or hearing — of an external object possessing pleasurable or painful qualities. For example, the hand comes in contact with the heated iron. The sense of touch conveys the sensation to the emotional nature, and the feeling of pain is produced.

In the infant, and adult as well, the existence of the feeling is manifested by certain external signs, as cries and tears. When the eye rests upon objects which are beautiful, the emotion of beauty is started in the soul. It may be beauty of form or expression, or any modification

perceptible by sight; it may be beauty of sound as expressed in harmony, where the ear becomes the organ which conveys the impression. In any case, the emotion created is a pleasing one.

With these few primary truths of psychology premised and with the fact assumed, as already stated, that the emotional nature of the infant, like all its other qualities, is susceptible of development; and with the additional truth granted, that the rules for the development and training of the physical and intellectual faculties are equally applicable to the internal emotions — with these assumptions, it is not difficult to determine what are the possibilities in the infant's soul; and what are the duties of parents; and, likewise, how those duties are to be performed.

Any faculty is developed in proportion to the frequency with which it is exercised. This is true, whether it be muscle or brain that is considered. It is true of the passions. If the infant be allowed to exercise continually the base emotions — as of hate, anger, etc., — the whole nature will develop in the wrong direction. The antipodal emotions of love, tenderness, sympathy, etc., will be dwarfed in the process. But, if the better and higher emotions be constantly exercised, they will grow more largely, and their opposites be more completely eradicated.

The simple duty of parents, then, is to cultivate the better natures of their children. Outbursts of anger should be prevented as far as possible. Conduct should

not be indulged which is calculated to unpleasantly affect the mind of the child. Fretfulness and peevishness can be cured if the parents never permit the child to see an exhibition of these in themselves. The child learns from the parent more largely than from any other person. It learns unconsciously. It takes on the habits of the parent. It observes the emotional nature of the parent to a great extent. If the parent be always amiable to the child and in his presence, the child largely develops amiability. So of any other emotion.

When to Commence Moral Training.

The time to commence the moral education is when the first indication of an awakening moral nature is perceived. The earliest culture will be by object lessons alone. The parent can express approbation and disapprobation by a glance of the eye — by the expression of the countenance. The child soon learns to read its mother's face as it afterward reads a printed page. She can make it smile by smiling herself. She can make it morose and hateful by exhibiting such emotions in herself in countenance and word.

The mind is very feeble at this time, as the brain is weak. Impressions are easily made. It requires but a very trifling pressure to produce a deep dent. The mind is like unhardened cement. A touch leaves a mark. The hardening process makes the eradication of the mark difficult, when once it is made ; impossible in a short time. Playing upon the purer, nobler, higher emotions of the

soul will keep these in most vigorous exercise, and consequently tend to their more full and rapid development.

Proper Indulgence.

It does not follow from this that the child is to be humored in every whim, indulged in every desire. Here is where so many parents, particularly mothers, make a serious error. They recognize the immaturity of the child's mind. They assume that it does not know good from evil, right from wrong. This is only a half-truth at best; such propositions are more dangerous than those that are wholly wrong. It is true that the child is governed by whims and caprices. It is also true that it always will be so governed unless it be taught differently. It is also true that the indulgence of a wrong emotion tends to the further development, the education and permanency of that fault.

No mother can begin too soon to lead out the moral nature of her child. This is a dual process. Restraining and eradicating what is not desired, stimulating and encouraging what is desired. It is easier to destroy a venomous insect or reptile in the egg than after it has begun to crawl. It is easier to destroy a poisonous plant in the germ than after it has begun to root and branch. The same holds true in the immaterial world. It is much better to stifle an evil propensity or passion before it has obtained a firm lodgement in the mind than is afterward.

Indulging infants in their desires is to invite further waywardness. It may require a little time, a little

patience, a little annoyance at the time, to cross the infant desire. It is easier, quicker, more comfortable, to indulge and be done with it. This, however, is only postponing the day of correction, and intensifying the difficulties of the process when it shall be undertaken. It is always best to do right at every particular time. Never purchase a present ease at the cost of future discomfort.

The writer recalls passing a night with a friend whose infant had been ill for a few days. The indisposition had necessitated frequent attentions during the night, and the light in the sleeping-room had been kept burning. At this time, however, the child was restored to health and the light was extinguished. During the night the child awoke, and, missing the light, refused to be comforted and return to sleep. It would have been much easier to have arisen, kindled a light, and thus secured peace and rest. Such, however, was not the theory of that household. The child remained wakeful, fretted and cried for perhaps two hours. It finally fell asleep through exhaustion. The next night the same struggle was renewed, but it was of much shorter duration. After that there was no further trouble. The child learned that it could not secure what it wanted, and it gave up crying for it. It cost a good part of two nights' rest to teach this lesson ; but it was taught. The principle in the above illustration is susceptible of multifarious applications. It is the only principle. The child must be made to know that the mother's will is to dominate. A few exhibitions of firmness and tenacity will teach this important lesson. The

child will acquire the habit of yielding to its parents. When this point is gained the process of moral training is comparatively easy. Until it shall be reached, it will be lame, impotent work. Here, too, is the key to successful government and training.

Whatever the child sees the mother do it essays to do. It repeats the words which the mother has said in its presence, and endeavors to imitate the actions which it sees in others. It does this, apparently, from an instinctive impulse. Those with whom the child is most intimate and most constantly associated, especially its parents, its brothers and sisters, are followed to the greatest extent. The child has implicit faith in its parents. Whatever they say is true ; whatever they do is right. During the earlier years of life the child knows no higher authority than its parents. "Father does this," or "Mother says that," is exclusive warrant to the child of the righteousness of the doing or saying. It desires no higher justification for its own sayings or doings than the fact that it is following its parent's lead.

An additional truth must be borne in mind : All human beings are imitative creatures. Relatively, this faculty is more largely developed in children than in persons of mature years. A strong impulse, innate and perhaps instinctive, urges the child to imitate the example of others. The child is new to the world, and everything in the world around it is new. It is a learner. The desire to gain information, to increase in knowledge, to accumulate a stock of facts which have been revealed by

the senses, is a universal faculty. Hence the well-known propensity of children of five and six years of age to ask questions. Hence, also, the vague rambling of such questioning ; the mind knows nothing definitely or fully ; it has an intense yearning for knowledge ; and it floats about in a vast sphere, grasping at everything it sees about it.

Take all these well-recognized facts together—namely, the large and trusted place which parents fill in the child's life, the instinct for imitation and the innate propensity for seeking knowledge — and add to them the constant presence or contiguity of the parents to the child, and at once is grasped the compass of parental influence over the child by word and example.

Some parents make the grave mistake of thinking that the child will discriminate ; that it will recognize that a thing may be right for its father to do, and at the same time be wrong for it (the child) to do. This is not the fact. Children do not discriminate. This requires an act of the understanding of which they are incapable. The child cannot help thinking that what its parents do is the right thing to do, and instinctively endeavors to imitate them. This is a part of its being, an integral part of its nature.

Children, too, possess a keen discernment. Intuitively they perceive truth and error. It is impossible long to deceive them. They seem to read character accurately and profoundly. Certain domestic animals, as the dog, for example, possess an instinct that enables them to

reach remarkable conclusions. The undeveloped intelligence of the child has qualities similar in operation to this animal instinct. The child always believes its parents to be what it sees them to be. It also believes its parents to be infallibly right. Imitative impulse will incline it to do what it sees the parents do. It also will, unconsciously, but none the less certainly, take on the moral caste of its parents and nearest exemplars.

Parents cannot be too circumspect before their children. Every idle word, every careless act, is noted, and then, or at some subsequent time, repeated. Habits are acquired, manners are learned, and opinions are formed, almost wholly by the influence of the example of others. If such example be worthy of imitation, well and good; the child will develop in right directions and acquire those habits and convictions which best fit it for reaching the great ends of its being in the world. If, on the other hand, the examples before it are vicious, it will as surely develop into a course of life and be characterized by beliefs and opinions which tend downward. There may be line upon line and precept upon precept of truth and uprightness; these avail little in moral and ethical training, unless they be attended and supplemented by examples in kind. Actions speak louder than words; they speak more effectively; they convince more readily.

Parents are first in the child's life, nearest to it in every respect, and, consequently influence it to a greater degree in the earlier years of its life than all other persons

combined. From its parents, it may be assumed, the child learns nothing but what is for its good. It cannot, if the parents are as careful and prudent as their desires and affections should lead them to be. Parents have an interest in their children and a care for them that cannot be measured. No calculus can compute the length, breadth and depth of parental love. It surpasses the heavens in height, and in profundity reaches the fathomless depths. The very life of the parents often centers in the child. It is the " all in all " of earthly desires. While, therefore, the child shall remain exclusively under parental care, it is measurably safe from evil communications, which corrupt good manners, and from the baneful influences of evil example.

But such a condition is necessarily brief. The days come and go, and the sphere of the child is enlarged. The means of acquiring information go outside the two persons who have given it being. It is impossible to prevent this, and not desirable, even if it were possible. It must come in contact with persons other than those of its own home. From these other persons it will learn as readily, and absorb knowledge as rapidly as at home. It has nurses, perhaps, and it soon will find playmates of its own age.

Immoral Practices Received from Playmates and Nurses.

Regarding the nurses, it may be said that, as a rule, they are not the sort of moral guides which children ought to have. They are generally of the lower walks of life

and uneducated. As a consequence, their minds are filled with fanciful notions and superstitions. It will be a blessing if they do not also have gross immoralities of speech or behavior. The playmates are necessarily a mixed throng. Parents cannot choose the playmates of their children. They may do much in the line of restricting these, and in guiding their children to a wise selection of mates, but they cannot entirely control the selection. It is not best that they should. Some of the child's playfellows will certainly have learned words and lines of conduct which cannot be approved, and which no thoughtful parent can desire his child to imitate.

What shall be done in such cases? In general, it may be said that contact with coarse and immoral persons is not an unmixed evil. It is a source of danger to the child always, and a menace to its purity of life. But the great Creator designed that life on earth should be a conflict. Good and bad influences compass every life, and, sooner or later, must come in contact in every one. "It must needs be that offenses come." It is by trial that faith is made perfect. It is by meeting and overcoming temptations that one is made strong to overcome. Ignorance of evil is no protection against it.

Duty of Parents in Reference to Such Influence.

The parents and guardians of children should be careful that no temptation to evil meets the child beyond what it is able to bear. It should be provided with the best nurse possible, with reference to influence on the child's

morals. A less efficient nurse, as such, is preferable to a more skillful one if the moral character of the latter be depraved. The playmates of the child should undergo judicious observation by the parents, who will need to exercise great prudence in this matter. A direct command to not play with a certain child may result in the very evil it was desired to avoid. The influence of these playmates upon the child from day to day should be noted. This is not a difficult task. The child will certainly betray any new experience which it may have, because, until told to the contrary, it will think it right and proper.

Notwithstanding all these provisions, it will still remain true that the child will come into associations with vicious companions and from them learn many improprieties. Prevention is always better than cure; but when prevention shall fail cure must be resorted to. The parents must take measures to counteract the evil influences which tend to harm their children. This they can do. The child has greater confidence in its parents than in strangers. It will rely upon their counsel in preference to that of other persons outside of the home. If an improper word learned upon the playground be never heard in the home, and when repeated by the child in the home circle, shall be condemned, the child will instinctively recognize that there is a difference between right and wrong, and will readily yield to the stronger influence of home. The evil habits learned outside the home should be carefully but promptly corrected. Ordinarily, no reason will be required for the prohibition, beyond the words of the

parents. The child will accept the dictum of the parent as authoritative in the case.

But the greatest counteractive of all is the example which parents set before their children. The child cannot help contrasting what he sees and hears at home with what he sees and hears abroad. In the tender mind will thus grow up a knowledge of good and evil. The stronger love for home and the implicit trust in the good intention of its parents, will induce a predilection for the good and the pure. This knowledge is the lesson which all must learn. It is a condition of a strong and pure life on earth. Until it shall have been learned, and learned in the stern school of experience, no soul is safe. The child's is a pulpy soul, capable of being molded in a wrong direction as readily as in a right one.

Without the innate impulse of imitation or mimicry, before alluded to, the child's education would be slow; could not begin until the mind had gained sufficient vigor to be capable of utilizing the abstract intellectual modes of gaining knowledge. With it the infant becomes a learner from the earliest dawn of intelligence.

But the child does not derive all its knowledge in this way. It finds teachers everywhere. The new and plastic mind receives impressions through each of its senses, daily and hourly, and each impression is a factor in determining the nature and extent of the resultant. It is but the expression of a truism to say that from each of its five senses the child receives continual accretions of facts which fix themselves in the unfilled mind. Its senses are

keen and its thirst for knowledge is great. It is learning when the maturer mind is not; its intellect is active and vigilant when the mind of the adult sees nothing that makes any noticeable impression.

The parents and guardians of children cannot overestimate the number and variety of means by which the child-mind is increased in knowledge. Everything in the great world about is of interest to the child. It takes the hue of everything around. The lessons which it learns are not all clearly defined to it, nor do they come in any logical order. Until taught differently, good and evil are alike to it, except in their more radical forms. It learns as quickly from vicious as from virtuous examples. It segregates the abstractions of vice as readily as it does the scintillations of virtue, and herein lies the danger to the education of the child. Herein lies the imperative necessity of constant vigilance on the part of the parent.

It is as natural for the child to learn as it is for the tree to grow or the earth to produce vegetation. It is the law of intellectual life that it cannot be dormant. The mind can no more remain unoccupied than a fertile field can be barren under the rays of the sun and the gentle showers. In either case there is, and of necessity must be, a product. It may be useful fruits, and it may be noxious weeds. It may be healthful knowledge, or it may be destructive immoralities. Nature, whether in the domain of mind or matter, abhors a vacuum. The mind of the child may be said to be empty when it first becomes sensible to the external impressions. It cannot remain so.

It will fill up from every source. Good and evil abound in the world, and hedge the child through all its days. They contend for the mastery of a soul. The good man may sow the seeds of useful knowledge never so assiduously, but if he sleeps the wily adversary will come up and scatter the tares in the carefully-prepared field ; there is then no recourse until the harvest. His opportunity will be lost if he sleep and leave the field unguarded.

Parents must never leave the lives of their children unguarded. They must watch the development of every impression, and remove all that is evil in essence or vicious in tendency before it becomes rooted in the mind. Every good impression must be deepened until it is firmly fastened in the mind. The eradication of an evil thought is not enough. The lesson comes down from the pages of the Sacred Word that the exorcism of an evil spirit is to leave the soul in a dangerous condition. The soul may be purged ; but if it remain empty, it may become the final abode of sevenfold more evil spirits than those which were cast out. The evil seeds must be pulled up and good seed sown in the place. The bad impressions can only, or, at least, can best be removed by the counteracting force of stronger impressions for good. Negative education seldom avails much of lasting good. This is especially the case with children. Their minds are so tender, so plastic, that it is better to stamp truth over error, and thus obliterate it, than to attempt to eradicate the false and then introduce the true. It is, after all, a matter of good and bad impressions. The work of the teacher lies in seeing that the good impressions are made the deeper.

Dress.

The subject of dress is of so much importance in the education of children that it deserves special notice. It is a factor not always recognized and seldom fully appreciated. Some parents seem to think that it makes little difference how they clothe their children so they are comfortable. Anything will do, whether it be old or new, of fashionable pattern or unfashionable, neat-fitting or ill-fitting. They argue that the children do not know the difference in quality, pattern or fit — therefore the cheapest is the most economical.

There are others who seem to have a morbid dread that their children will become vain, and hence they purposely and studiously dress them in plain and homely attire. Such parents are honest and well-meaning. They are disgusted with the pride and vanities of the world, and desire above all things that their children shall grow up free from these vices. The intention is commendable, but the means used to attain it are not the best. There is not infrequently as much pride and vanity in those who dress ill as those who dress well.

There are others who seem to regard their children as they do their other possessions — that is, as things by which the owner's taste and judgment may be gauged by the neighbors. They dress up their children for show, just as they do their houses or lawns. They love beautiful appointments about their homes, and ill-dressed, tawdry children present an appearance which is disagree-

able to their refined and sensitive tastes. Such parents act, then, without much, if any, regard for the children, but largely, if not wholly, for the effect objectively considered.

All of these conceptions are wrong. Children should be clothed with their own good in view. Their dress operates in two ways (in their education) — upon their bodies, and upon their minds. The one is no less important than the other. The whole matter of dress should be viewed from this dual standpoint. What others may think of the appearance of their children should be a comparatively insignificant consideration. What effect the child's dress may have on the parents' taste is equally so. The child is to be dressed for its own sake, not for the sake of others. It happens, however, that when it is best dressed for its own sake, it presents the happiest effect on others. But this is merely incidental.

First of all, the clothing should be a protection to the child's body. This is a primary object. The body should be kept comfortable — warm in winter, cool in summer, so far as clothing can do this. It should be comfortable in another sense. It should feel easy and pleasant to the child. To reach this end it will not do to have the clothing unequally distributed over the body, thicker and warmer in some places than in others. This is often the case with little girls. They are warmly clad about the chest and abdomen, while their limbs are exposed to the cold. The effect of this is to drive the blood from the extremities. Directly, this is injurious;

remotely, it tends to an unequal development of the parts. The circulation in the extremities is impeded until it fails to recuperate the continual waste of tissue. This is part of the reason why so many girls grow up with fairly-developed busts, but scrawny and ill-shaped legs and arms.

The clothing should be adapted to the functional operations of the body. Circulation and respiration must not be interfered with by bands and compresses. The dress may be trim without being tight to obstructiveness. The blood must be allowed unimpeded movement through the veins and arteries. The further the part is removed from the center of circulation, the weaker is the movement and hence the greater care should be given that no obstacle in the way of tight waist-bands, shoes, etc., be permitted. The same may be said of respiration. It is very important that the dress permit unhindered movement of the muscles concerned in breathing. The dress should further be constructed with a view to perfect ease and freedom of movement of all the parts of the body. The nature of the material used has much to do with the attainment of this end. It is not an uncommon thing to see children so dressed that when they remain in a certain position their clothing hangs gracefully; but the texture or the manner of its construction will not permit taking certain other positions. Children are keen-sighted and sensitive. A boy of even eight years of age, when he discerns that he cannot sit down without drawing his dress out of neat fit, will not and cannot sit gracefully and comfortably in the

presence of others. The dress should allow the arms, legs, shoulders and body generally to be moved freely without a feeling of discomfort or a consciousness of disorder in appearances.

Fashion.

It has already been said that children are observing and sensitive. They are keenly alive to the impression which their dress creates in the beholder. Their feelings operate on their intellectual powers and habits. A child slovenly dressed feels slovenly, and is quite likely to think slovenly. On the other extreme, a child dressed like a doll is likely to feel and think doll-fashion. Here, then, are two extremes to be avoided for the subjective good of the child — slovenliness and vanity. It is a well-established psychological fact that the intellectual and emotional natures of persons are largely conditioned by material environments. Everything about the maturing life has an influence on its mind and character. The subject may not be elaborated here; suffice it to say that dress is a material circumstance most potent in its influence and effects. No adult who reads these pages can deny that his mental and moral feelings are influenced by the way in which he is dressed. The writer remembers to have demonstrated this frequently during his school-days, both with himself and others. The attempt would be made to write an essay on some topic requiring elevation of mind and free imaginative scope. With such a task on hand, if one should dress himself in a slatternly manner and

repair to the stable or wood-shed, the free play of thought was impossible. Words, phrases, topics, metaphors, could not be recalled, for the thoughts were uniformly in the plane of the surroundings. Change the conditions let the dress be neat, clean and tasty, seek a beautiful site for landscape, or repair to an orderly-arranged room, and the best thought of which the mind was capable would be evoked.

What is true of adults with regard to the influence of dress upon mental action is increasingly true of children. The mind of a child is more impressionable. It is much more easily affected for good or evil. As the mind is now in its formative state, it is manifestly important that it be formed on as pure a model and on as high a plane as is attainable. If low and base thoughts be constantly evoked, the mind and moral nature will be formed on this scale. Criminals are bred in filthy surroundings; the keen, careful man of business was the boy whose early life was attended by care and exactness. The easy, polite, graceful society lady was not clothed in ill-fitting garments of obsolete patterns when she was a girl. The highest perfection in dress is reached when it enables its wearer to feel easy, natural, and beyond remark, either on account of uncouthness or hyper-elegance.

Government of Childhood.

The relation of parent and child involves certain privileges. Every privilege involves an obligation. It is the parents' privilege to exercise authority over their children;

it is their duty to execute this authority. The parents are the tutors and governors. They cannot escape this duty if they would. They are bound to govern their children and it is the duty of the child to submit to the paternal rule. If it do not submit it should be compelled to. A large share of this government devolves upon the mother. A mother is invested by God with a decree of authority over her child which she cannot neglect to use without being guilty of trampling under foot the institutions of heaven. Every family is a community, the government of which is strictly despotic, though it should not be tyrannical. Parents are sovereigns, though they should not be oppressors. Legislators are not merely counselors, and their will should be not advice, but law. The mother's prerogative is to command, to restrain, and to punish, and children are required to obey. If need be, she may threaten, rebuke, chastise, and the child should submit with reverence.

The mother is to decide what books are to be read, what companions invited, what engagements formed, and how time is to be spent. If she see anything wrong she is not to interpose with the timid, feeble, ineffectual voice of Eli — "Why do ye thus, my sons?" — but with the firm, though mild prohibition. A parent must rule her own house, and by her conduct make her children feel that obedience to her command is her due. A lack of discipline is identical with confusion and domestic anarchy.

Where discipline is absent everything goes wrong. A gardener may sow the choicest seeds, but if he neglects

to pull up the weeds and prune wild luxuriance, he may not expect to see his flowers grow nor his garden flourish. So a mother may deliver the best instructions, but if she do not by discipline eradicate evil tempers, correct bad habits and repress rank corruptions, nothing excellent can be looked for. She may be a good prophet and a good priest, but she must be as well a queen, or all is in vain. When once a sceptre shall have been broken, or relinquished to the child as a plaything, all hope for the proper government of the family may as well be given up.

In his professional life the writer has witnessed the evils resulting from the want of discipline in innumerable families. Frightful instances of disorder and immorality are now present to the mind which he could well wish to forget. The misfortune in many families is that discipline is unsteady and irregular — sometimes carried to tyranny itself, at other times relaxed into total suspension — so that the children now tremble like slaves, and now revolt like rebels. This is a most erroneous system, and its effects are just what might be expected.

Another evil is that discipline is often abortive. That is, it is administered at a proper time and manner, but is relaxed just short of success. No correction should be commenced that is not completed then and there. When an order has been issued, its execution should follow. When chastisement for a certain end is to be applied, it should not be relinquished until that end is reached, and one thorough correction is worth more than a hundred abortive efforts.

Parents, particularly mothers, often delay the application of coercive measures too long. There is nothing surprising about this. The growth of the child is so gradual that the mother does not notice the progress made from day to day. At first, and for months afterwards, the infant is incapable of understanding the meaning of government. It must be coaxed and wheedled. The time glides away rapidly, and the mother scarce knows when she should have begun to govern her child instead of having it govern her.

Whately says: "A mother once asked a clergyman when she should begin the education of her child, which she told him was then four years old. 'Madam,' was the reply, 'you have lost four years already. From the very first smile that gleams over an infant's cheek your opportunity begins.'"

In some cases discipline commences too late, and in others too early. A mother's magisterial office is nearly coeval with her parental relation. A child, as soon as it can reason, should be made to feel that obedience is due to parents, for if it grow up before it have been subject to the mild rule of parental authority it will very likely be like an untamed bullock — resist the yoke. On the other hand, so long as children continue beneath the parental roof they are to be subject to the rules of domestic discipline.

Many mothers err in abdicating the throne in favor of a daughter, because the child is becoming a woman. It is truly pitiable to see a girl, entering her teens, just

returned from school who is allowed to sow the seeds of discord or revolt in the domestic circle, and to act in opposition to parental authority until the too-compliant mother gives the reins of government into childish hands, or else, by her conduct, declares the children to be in a state of independence. There need be no contest for power, for where a child has been accustomed to obey from infancy, the yoke of obedience will generally be light and easy; if not, and a rebellious temper should show itself early, a judicious mother will be on her guard and allow no encroachments on her prerogative. At the same time, the increased power of her authority, like the increased pressure of the atmosphere, should be felt without being seen, and this will make it irresistible.

Undue severity is as injurious as unlimited indulgence. If injudicious fondness have slain its tens of thousands, unnecessary harshness has destroyed its thousands. By an authority which cannot err we are told that the cords of love are the bonds of a man. There is a plastic power in love. The human mind is so constituted as to yield readily to the influence of its kindness. Men are more easily led to their duties than driven to them. "A child," says an Eastern proverb, "may lead an elephant by a single hair." Love seems so essential an element of the parental character that there is something shockingly revolting, not only in a cruel, an unkind or a severe, but even in a cold-hearted mother.

Study the parental character as it is exhibited in that most explicitly touching moral picture, the parable of the

prodigal son. When a mother governs entirely by sole, bare authority, by mere commands, prohibitions, and threats, by frowns untempered with smiles; when the legislator is never blended with the friend, nor authority mingled with love; when her conduct produces in the hearts of her children only a servile fear, instead of an obedient affection; when she is served because of dread of the effects of disobedience; when she is rather dreaded in the family circle as a frowning spectre than hailed as the guardian angel of its joys; when even accidents raise a storm, or faults produce a hurricane of passion in her bosom; when offenders are driven to equivocation or lying with a hope of averting by concealment those severe corrections which disclosure always entails; when unnecessary interruptions are made to innocent enjoyments; when, in fact, nothing of the mother but everything of the tyrant is seen — can we expect a moral excellence to flourish in such a soil? Yes, as rationally as we may expect the tenderest house-plant to thrive amidst the rigors of eternal frost!

It is useless for such a mother to try to properly teach her household. She chills the soul of the pupils; she hardens their hearts against impressions; she prepares them to rush with eager haste to their ruin as soon as they have thrown off the yoke of their bondage, and to employ their liberty to secure the means of unbridled gratification. Like a company of slaves, they are at first tortured by their thralldom, and by that very bondage trained to convert their sudden emancipation into a means of destruction.

Let parents, then, in all their conduct blend the law-giver and the friend ; temper authority with kindness, and realize, in their measure, that representation of Deity which Dr. Watts has given us :

"Sweet majesty and awful love
Sit smiling on His brow."

In short, let them so act as to convince the children that their law is holy, and their commandment holy, just, and good, and that to be so governed is to be blessed.

No educational system is perfect which does not include the development, in due proportion, of the whole nature of the pupil. The infant at birth contains a germ of all that is great and good. Education is simply the process of drawing out and developing dormant energies into a condition which makes the attainment of desired ends possible. In the natural course of things, some sort of development will come ; the innate germs will be evolved into present potencies, and the latent strength will be energized. The body will grow ; its bones and muscles will acquire strength and become fitted to the end for which they were given. The mind, and soul, too, will expand with the young physical nature, and the infant will pass into the child, the child into the youth, and the youth into the mature being. All this evolution will come in the natural course of events.

But something more than mere growth is needed in order that the essential end of being shall be conserved. There must be the education of all the parts and faculties of the infant being in order to the attainment of a

symmetrical life. Undue attention to one part of the child's nature, with the neglect of another part will disturb the equilibrium so necessary to a proper fulfillment of the purposes of life. If the body receive attention and the intellectual nature be neglected, the child may become a fine animal, but not a man or woman. On the other hand, if the mind be educated out of proportion to the development of the physical energies, the matured being is not fitted for securing life, health and happiness.

Recognizing the truth of all this, the part of the educator is made apparent. The threefold nature of the child must be admitted, and each part receive due attention. Much has already been said about the physical and intellectual conditions essential to proper education. It remains to note that the moral nature should not be neglected. The moral education includes the inculcation of religious truths and the development of the religious nature.

Man is by nature a religious being; it is entirely natural for him, even at his highest development, to look to something higher and better, and to pay homage to it. This principle was instilled into the nature of man by his Creator for a great purpose. The development of that purpose rests almost wholly with the parents. It is impossible for a child or an adult to live without a God. It rests with the parents to determine whether that duty shall be good or evil.

When to Commence Religious Training.

The time for beginning religious education dates with the dawning of reason in consciousness. This does not mean that religious instruction according to any denominational doctrine should then commence. As has been said, education is simply a leading out of what already exists. As soon as the religious nature begins to manifest itself it should be educated, or led out. This is necessary to preserve symmetry of development, the need of which has been so carefully mentioned.

The first principle of religious truth is a distinction between right and wrong. This the child can easily be taught. Following this comes the duty of doing right and shunning wrong. The next step is to teach the child to do right because it is right, and to keep from doing wrong because it is wrong. This is an easy, natural corollary of ordinary discipline. The child obeys the parent because he believes the parent to be right. He can be taught to obey God for the same reason.

A third step will be to teach that doing right is profitable; doing wrong, disastrous. Also, that doing right insures reward and happiness; that doing wrong will inevitably result in punishment and misery. The child will readily comprehend these truths. They are almost identical with parental discipline. It is only necessary, then, to inculcate the notion of the fatherhood of God and the endlessness of eternity, and the foundation is securely laid. This part of the religious education can be begun very early in life. It is all the better so.

As the child grows older, formal religious truths and practical observance can be taught. The former will naturally be in the form of rules, largely. To these the child is partially accustomed. The latter is best done by example. No woman, be she mother or not, can drive a child into the Kingdom of God. She can lead it thither. It will go with her or follow after her. If she "walk with God" daily she can keep her child in the same company. If she sit with Jesus Christ in Heavenly places her child will sit with her.

PUBERTY.

Its Definition.

THE term of puberty is used to denote that period in life when sexual development takes place. The word itself is derived, or rather adopted from the Latin, *Pubertas*, which signifies the marriageable state — that is to say, that state of development of the procreative functions which made the begetting of offspring possible. While the word *puberty* is equally applicable to either sex, its application is often limited to one. In the present work this word will be employed to designate the period and change which converts the child into the maiden.

Puberty marks the beginning of adolescence, the dawn of mature development. It is not so much an act of Nature as the consummation of processes that have been at work for years, but which burst into fruition at this time. Adolescence is a period that works great changes in the entire nature of a girl. Her tastes, habits, disposition, thoughts, emotions — in short, her whole physical being and whole spiritual character undergo a revolution. She enters it a child; she emerges a woman. She enters it raw, unformed, perhaps unattractive; she comes from it full, rounded, matured.

The intellectual changes are most gigantic during this time. Among no people are these so marked as among the Caucasian race. The physical changes are almost equally great. The sign of puberty is the menstrual flow, which consists of the emission from the womb of a fluid having the appearance and consistency of venal blood. The beginning of this flow marks the beginning of the period. It is a sign that the girl has now reached the degree of development in which her generative organs are capable of their full functions. The capabilities of maternity exist in active operation. Childhood has passed away forever. Maidenhood and womanhood, with all that these imply of happiness and hardship, are upon her.

Evidence of the Approach of the Menses.

The functions of the generative organs of woman are not always established without subjecting her to annoyances ; nay, even to suffering and affliction, which need not only counsel but also medical aid.

A woman is subject to menstruation during the best period of her life. During this period of thirty or more years of her womanhood, her health is, in a great measure, dependent upon the accomplishment of that function ; and, according to the success or failure of that process, she either flourishes in the enjoyment of health or languishes in pain and weakness. Previous to this she has given her parents no special care or anxiety, but has been allowed to run, play and romp like a boy. Puberty,

although apparently sudden, is effected gradually, and not always without accident. Its manifestation in menstruation may be normal, or so abnormal as to constitute a real malady.

A girl, apparently in a state of perfect health, may be taken in such acute and severe symptoms as to lead a mother to suspect indications of a severe malady. A mother may be misled by the singular complaints into the belief that the sickness is feigned when her daughter should be the object of her sincere sympathy. Again, an ignorant attendant, believing the indisposition to be an accidental attack of colic from indigestion or otherwise, may fill the child to drunkenness with alcoholic stimulants. Menstrual colic may be confounded with the symptoms of worms, and she may be medicated for that ailment, very much to the detriment of her health.

It must not, however, be ignored that the symptoms are not frequently very obscure and confusing. Acute pain, accompanied with some degree of tightness and oppression, may suggest flatulency, while irregular and heavy pain may suggest the presence of worms. Yet the age of the girl, the suddenness of the attack in the midst of good health, and the periodical return of these indispositions, the regularity of the pulse, the natural condition of the skin, the cleanness of the tongue, the absence of indigestion or diarrhea, the shortness of the pain, and especially coldness of the feet, when present, should suggest rather a preparation for the menstrual flow.

These symptoms may generally be met by baths of

hot water to the feet, hot or flaxseed-meal poultices applied to the abdomen; or, if need be, by warm "sitz baths." If there should be neuralgia, pain in the chest or otherwise, some anodyne, such as a full dose of paregoric, might well be administered. She is a wise mother who does not allow this period to come unwarned upon her daughter. An indiscretion, ignorantly committed, may jeopardize the health of the whole after-life. A few words of instruction and wise counsel, not to alarm, but to prepare the daughter, may save a life.

Age of Puberty.

Menstruation, in this country, generally commences at the age of from thirteen to sixteen; sometimes earlier, at eleven or twelve; at other times later, and not until a girl is seventeen or eighteen years of age. Menstruation is supposed to commence at an earlier period in cities than in the country; amid luxury than in simple life. Upon this point an authority says: "In the human female the age of puberty, or of commencing aptitude for procreation, is usually between the thirteenth and sixteenth years. It is generally thought to be somewhat earlier in warm climates than in cold, and in densely-populated manufacturing towns than in thinly-populated agricultural districts. The mental and bodily habits of the individual have also considerable influence upon the time of its occurrence. Girls brought up in the midst of luxury or sensual indulgence undergo the change earlier than those reared in hardihood and self-denial."

To these general rules there are upon record some apparently remarkable exceptions. The writer is familiar with instances where the solicitude of parents has been excited by the long delay of this constitutional change; others, where it took place at a very tender age, without producing any marked influence upon the general health. A French writer relates a case where a child of three years underwent all the physical changes incident to puberty and grew to be a healthy woman. But Americans will not be outdone by any other nation, and a medical journal has recently related an instance in which a child at birth had regular monthly changes, and the full physical development that marks the perfect woman.

In very warm climates, such as Abyssinia and India, girls menstruate when quite young, at even ten or eleven years; indeed, they are sometimes mothers at this age. But the maturity that begins early ends early, and they are old women at thirty. Physically we know there is a very large latitude in the periods of human maturity, not merely among individuals, but among nations; differences so great that in some southern regions of Asia we hear of matrimony at the age of twelve years.

Dr. Montgomery in his work on this subject refers to some very interesting cases of early maturity. He says: "Bruce mentions that in Abyssinia he has frequently seen mothers at the age of eleven years." Dr. Goodeve, professor of midwifery at Calcutta, in reply to an inquiry upon this subject said: "The earliest age at which I have known a Hindoo woman to bear a child is ten years, but I

have heard of one at nine." In his own practice, in a period of almost thirty years, the earliest age at which the author has known a woman to become a mother was thirteen years. The child, though fairly developed and looking healthy, lived only a few days. The mother lived a few years and died of consumption. This instance of early maturity was attributed to the habits of family life. In the cold climates, such as Russia, women begin to menstruate late in life, frequently not until they are twenty or thirty years old; and, as menstruation continues from thirty to thirty-five years, it is not an unusual occurrence for them to bear children at the advanced age of sixty. They are frequently not regular oftener than three or four times a year, and the menstrual discharge, when it does occur, is generally scanty.

Race has an influence on the time of puberty. It has been observed that in the same latitude certain types of women are more precocious than others; there may be a constitutional predisposition to early maturity. It will be seen, however, in almost every case, that the climate has an indirect influence. The Hebrew girl, no matter where she may be found, almost invariably reaches her menstrual period a year or more in advance of her Germanic or Anglo-Saxon sisters. One reason for this undoubtedly is that the Hebrew race is native to tropical, or semi-tropical, climes. True, it is scattered throughout the earth, and is found everywhere, but these people, in all their history, have kept themselves apart; they have intermingled with no other race. They are to-day as

much a "peculiar people," in a physiological sense, as they were in the days of their father, Abraham. Through all the ages they have maintained their race characteristics, so that, virtually, the Jewish maiden has the constitutional peculiarities she inherits from a race that is indigenous to a southern latitude, even though neither she nor her immediate progenitors has ever been in such a climate.

Creoles and Negro girls menstruate in early life. In this, too, the constitution has much to do in determining the precocity. In the case of the Creole, there is the warm blood of a Southern race. The same is true of the Quadroon, Octoroon, or pure negress. Decades may have passed since any of the family of the girl dwelt in a warm climate, but the inherited constitution still shows its influence.

Temperament exercises an influence on puberty. The fact is ascertained, though the reason be not apparent. Brunettes reach the age of puberty sooner, as a rule, than blondes. Girls of black eyes and hair are more precocious than those of blue eyes and light hair. The nervo-bilious temperament matures earlier than the phlegmatic or lymphatic.

Habits of life, physical and emotional, tend to expedite or retard this epoch. A regular life, with hygienic habits of eating and drinking, healthful exercise and labor, with no social dissipation, will allow the girl to pass to the full natural time of puberty. On the other hand, idleness, dissipation in diet, especially in richness of quality, drink, stimulants and social dissipation tend to prematurity in this epoch.

The excitation of certain emotions, particularly those tending to sexual passion, influence early puberty. Late hours, loss of sleep, sensational reading, voluptuous music, often tend to premature development. Girls in a city, as a rule, menstruate from six to eight months earlier than those in the country, in the same latitude and of the same temperament. The reason is found in the difference in the physical life and habits of the two. The former lead a more idle and dissipated life than the latter, who live more out of doors and perform harder and more constant labor.

The period of puberty is attended with many serious dangers to the health of the maiden. It is the time when constitutional defects are most likely to manifest themselves, and when inherited predisposition to certain diseases is most likely to blossom into activity. A child with a tendency to consumption, for example, or scrofula, epilepsy, or something of the sort, is most likely to give evidence of the disease at this time. The buoyancy and elasticity of childhood may have carried the girl through that era without developing any trace of the hereditary tendency. The great change that now takes place in her life will call out the malady. The two years of puberty are critical. They condition the after-life largely. There is no time in life when the laws of hygiene should be more scrupulously observed than now. Nothing can surpass, in point of importance, the care of the health during this time. Four words comprise the hygiene of this epoch — food, exercise, rest and sleep.

Particular attention should be given to the diet. The quantity of food required is more than has been necessary hitherto. Its quality should be plain ; it should be simply prepared, nutritious, and taken with scrupulous regularity. The system requires to be nourished, and nourished lavishly. Nothing more effectually invites the implantation of the seeds of disease than a starved condition of the system. Nothing better precludes these germs than a well-nourished condition. The appetite is likely to be whimsical and capricious, and is no certain index of the real wants of the system. Reason, supported by experience and scientific authority, must guide.

Stimulants, such as tea and coffee, and certainly all wines, should be prohibited. Nothing is better than good, fresh milk. It is nutritious and especially rich in nitrogen. Vegetables rich in oils and fat meats are peculiarly beneficial during these periods. These tend greatly to ward off that most terrible of all maladies at this most common time of attack — consumption.

Pleasant, exhilarating exercise should be taken regularly. Let this be in the air and sunshine as much as possible. Less work than usual must be done. Severe discipline in physical and mental labor must not be enforced. Over-exertion is potent in bringing on diseases. Above all things, plenty of sleep should be allowed. If the girl be disposed to be tardy in dressing in the morning — as she will be — this should be encouraged. Loss of sleep at night is not to be allowed, nor dissipation and exposure to extremes of cold and heat.

The beginning of menstruation marks the consummation of the changes which have been taking place during puberty. With the commencement of the monthly discharge dates the end of childhood and the beginning of womanhood. In this latitude, the average time for the menses to set in is fourteen years and six months. It varies from the average in different cases, and for reasons some of which have been mentioned. Once established, this flow will recur at regular intervals, from twenty-five to thirty days apart. In common calculation, the time is put at a month's interval, hence the name "mense," or month. This interval will hold good with perhaps three of every four women in health. During the first two years there is likely to be some irregularity, both in the recurrence of the intervals and in the continuance of the flow. After that time, there will be greater conformity to the general rule. With about one of every four women there is variation, some exceeding the average time of four weeks' interval and others having the recurring discharges more frequently. Cases are known where there was sickness every sixteen or eighteen days. Others where the "monthly" did not come for thirty-six and forty days. Variation from the rule is no cause for alarm. Every woman is a law unto herself in this matter. She may be as regular with periods six weeks apart as her sister with only four weeks intervening. As long as the general health remains good Nature is working to the best rule. No woman can pass beyond or anticipate the interval to which her condition is adapted and maintain good health.

Body and mind will both suffer from such irregularity. As long, then, as the general health does not suffer, the times of the monthly sickness need give no concern.

The times in which the flow continues vary considerably. The average is a little over four days, or from two to six days. It rarely is less than of two days' continuance, and as rarely exceeds six. If the latter should ever occur, the presumption is that something is wrong, and medical counsel should be had. The amount of the discharge is generally from three to five ounces. Climate influences the quantity, as do also temperament, robustness, and habits of life. In cold climates the discharge is less, in tropical regions more, than the average. With brunettes and those women of strong, sanguine temperament, there is a greater quantity discharged at each period. Habits of indolence and luxury affect the quantity, increasing it beyond that of those whose lives are spent industriously and with few comforts of home or table. Delicate and feeble women generally have more profuse menstruation than robust and strong ones.

The office of the menses in reproduction is important. On either side of the womb, and about four inches from it, are two small bodies, called the ovaries. These are connected with the womb by a small tube. These ovaries contain numberless vesicles of infinitesimal size, which pass from time to time into the womb. These vesicles are called ova or eggs. One of these ova ripens, so to speak, once a month, and passes into the womb. Its passage into the womb is attended by all the physical disturbances

of menstruation. In fact, menstruation is the manifest evidence of the ripening of a new ovum.

This ovum remains in the womb for from ten to fifteen days after the cessation of the menstrual flow. If, during its stay in the womb, it should come in contact with the spermatozoa of the male semen, it is vitalized, and the germ of a new life is developed. If, however, no coition be indulged, the ovum dies and is discharged. Some women assert that they are conscious of the time when the expulsion of the ovum from the uterus through the vagina is made ; but this is questionable. Menstruation, then, is simply the process of ripening an egg and depositing it in the womb, the proper receptacle for containing it for purposes of conception.

The normal condition of menstruation is that in which the discharges occur at regular intervals, however long or short these may be. It is Nature's way of perpetuating the race, and of maintaining the equilibrium of the health of the woman during this part of her life. The health of the procreative organs depends upon the regularity of the menstrual discharges. When, for any cause, the menstruation is interfered with, there is a local disturbance in the reproductive organs, followed by a disturbance of the whole system. During the child-bearing period of woman, menstruation is the balance-wheel of her health. As it is, so is her general condition. Not infrequently, however, there are functional disturbances of menstruation. A brief account of these may be given.

Causes of Functional Disorders.

The causes of functional derangement of menstruation may be divided into two general classes — remote and immediate. The first are more likely to be overlooked than the second. Women of lymphatic temperament are more prone to scanty menstruation, leucorrhea (or whites) and hysteria; while the sanguine and nervous are more liable to excessive and painful menstruation. Where the nervous temperament predominates, the susceptibility to excitement and to external impressions predisposes the person to conditions which disturb the natural exercise of the menstrual functions.

A want of proper nourishment impoverishes the blood, lessens the vital force, weakens the heart's action, and thereby interferes with the proper distribution of the blood. The ovaries and the womb soon suffer from this lack of proper distribution of the vital fluid, and we have the evidence of the suffering in the scanty, pale, watery menstrual fluid, leucorrhea, and relaxation of the muscles and appendages surrounding the womb. While a want of food is attended with bad effects in the manner referred to, excessive food, on the other hand, has its evil result. Overtaxing the stomach weakens its digestive powers and prevents proper nutrition. This overfeeding, and especially of very rich and highly-seasoned dishes, overloads and irritates the system, until the ovaries and womb manifest their sympathy by painful menstruation, etc.

Vitiated air is another very fruitful source of general

debility in women and derangement of their menstrual functions. A distinguished writer on the subject of pure air remarks: "Humanity dwells in a sea of air, as fish dwell in a sea of water; and as the latter must be affected by the quality of water, so must the former be affected by the quality of the atmosphere." How important for the healthful performance of the functions of the body that the air, with which we fill our lungs at every inspiration, be not freighted with such impurities as disturb these functions, and even implant the seeds of death.

Exercise is one of the most important factors in remedying functional derangements of the sexual organs. Exercise is said to be the harmonizer between supply and waste, or nourishment and decay. When properly conducted, it gives vigor and strength to the body, and assists all the organs in the performance of their functions. Deprive a woman of sunshine, air and exercise, and she becomes enervated; the functions of her genitive organs languish; she loses her bright tints and colors; general debility follows, and, as a consequence, general disturbance of the organs of generation. It may be added that loss of sleep through social dissipation is a fruitful source of derangement and consequent disease. Sleep, next to food and exercise, is a natural hygiene. It is the third in the triad of health preservatives.

Amenorrhea, or Suppression of the Menses.

This means the absence of menstruation. It may happen in different circumstances. Menstruation may have never made its appearance. Menstruation may have

been established, and suppression may be suddenly brought about, attended with acute symptoms, and hence may very properly be termed acute suppression, or there may be no special disturbance at the time, but it may continue long enough to be denominated chronic suppression.

Some pathologists add to these two, partial suppression — that is, either when there is a deficiency in quantity, or infrequency in the periodical return.

And you might add retention of the menstrual fluid either in the uterus or vagina, or both, after having been effused. This retention, although it fill all the requirements of the definition of suppression of menstruation, is distinct in many respects, giving rise to a different set of symptoms and requiring a very different kind of treatment. It will be treated under the head of physical dysmenorrhea. Whether we have the legitimate right to regard the failure of an organ to support its functions as a distinct malady, may be questioned, but, in view of the quantity of fluid excreted and the importance of the functions of menstruation, suppression may be the cause of very grave disease.

The causes of suppression of menstruation are physical or constitutional and accidental. When there is suppression of menstruation, either on account of the absence of the organs of generation or for the want of sufficient development of these organs, the cause of suppression may be called physical. Such cases, however, do not usually show any special inconvenience as a result of suppression.

Professor Byford says: "The non-appearance of the menses on account of the absence of the uterus is not usually attended with the chronic suffering I have alluded to. Ordinarily, and, indeed, in all the cases of this kind to which my attention has been called, the patients appeared to be perfectly well. One of these patients was thirty-three years of age, another twenty-seven, and a third twenty-two, and all of them were in perfectly good health."

The same author, in speaking of amenorrhea patients, whose uterine organs were not sufficiently developed, says: "I have had occasion to see and examine and watch for several years two cases of chronic amenorrhea from deficient development of the uterus and perhaps of the ovaries. They were both married. One of them is twenty-eight years of age and has been married nine years, has never menstruated, has no sexual desire, but lives happily with her husband. The other has been married three years, is twenty-five years of age and resembles the first completely."

From these examples it will be seen that the absence of the menses is not the cause of all the nervous suffering that we usually find associated with it. But it is the result of a condition of the uterus and organs associated with it. The degree of sensibility of the sexual organs, the temperament, and the organization of the uterine organs, may be constitutional causes.

Whenever any constitutional weakness exists, any immediate cause will act as an auxiliary in producing

suppression of the menses. Anything that lowers the vital forces of the system may act as an immediate cause, such as poor nourishment, sedentary life, unhealthy apartments, overwork, late hours ; also, moral affections, such as sadness, grief, disappointment, etc., excessive hemorrhages from any organ, debilitating diseases, such as fevers, tuberculosis, etc. Occasionally the suppression of the menses in tuberculosis may be the first symptom that causes any alarm, and that induces the subject to consult a physician. But any serious malady, such as we have referred to, is usually well developed before the symptom of suppression appears. Prominent among the accidental causes of suppression are sudden exposure to cold when the body is overheated, ablutions of the body in cold water, or exposing the feet, or, with some, even the hands in cold water, ice-cold drinks, or ice-cream, sudden loss of a large quantity of blood from the womb or otherwise, any great mental shock, excessive pains, etc.— any of these accidental causes occurring at the time of the return of the menstrual period may induce suppression. Change of the clothing during menstruation will produce suppression with a great many women.

The local symptoms which attend the absence of the menses will be varied according to the nature of the causes which give rise to it. If the patient has commenced to menstruate, and from some accidental cause the flow has suddenly stopped, it may be regarded as acute suppression, and we will have the symptoms of great congestion or inflammation. There will be pain in the

back, abdomen and hips, accompanied by a sense of chilliness more or less severe. This will be followed by fever, pain in the head, pain in the limbs, general languor, white coat upon the tongue, and a persistent pain over the region of the uterus. These symptoms would suggest inflammation of the uterus. After a few days these symptoms may subside, and be followed by a re-establishment of the discharge, or they may gradually disappear without any return at this period — leaving more or less discomfort in the pelvis. If there be no serious disturbance of the uterine organs, the menses will reappear at the next period, but not usually with that freedom and comfort that have been their wont, but with more or less pain, which may be manifest at each successive period.

At other times the discharge fails entirely to appear at the appointed time, and the case becomes chronic, and may continue for a length of time. If this should be the case, chronic inflammation of the uterus or womb and ovaries may be expected as a result of the acute attack, and from a reflex sympathy, resulting from a morbid condition of these organs. The stomach, bowels, and all the organs connected with the process of digestion, are disturbed. The appetite may be capricious. The irritable stomach rejects food, or may be troubled by nausea ; the heart becomes irregular and often palpitates ; the head is full and heavy, and often painful, especially in the upper and posterior part ; there are ringing or strange sounds in the ears ; — in short " nothing well, but everything sick."

Women thus affected give external evidence of their condition by general pallor; their faces are puffed, their flesh flabby and their movements languid; they easily become the prey of moral influences, and are "blue" or melancholy. This depressed or debilitated condition makes patients subject to such disorders as neuralgia, hysterics, hypochondria and dropsical effusions, either partial or general; the latter will be manifest in the eyelids, feet and other places.

Farther delineation of symptoms of suppression of menstruation is deemed unnecessary, since from what has been said, and the natural instinct of the human mind there will be but little trouble in understanding the nature of the disease. If the disease continue the consequences are generally serious, and medical aid should be solicited.

This character of menstrual trouble frequently puts a physician in an uncomfortable position if the patient be unmarried. The writer has frequently been called to prescribe for patients of this kind where it was their hope that he might overlook the real cause of the suppression and administer some remedy that might successfully relieve their real trouble. Some patients appear to be quite ignorant of the proper treatment of suppression, and hope that the physician may prescribe some emenagogue sufficiently active to produce abortion. If this be a correct suspicion they are gravely mistaken in the ability of the profession. There is no reasonable probability that any doctor of medicine would be so ignorant as to make such an egregious blunder.

Amenorrhea is not necessarily a grave affection unless complicated with great constitutional disturbances or dependent upon some serious cause. It is usually only a delay and can be easily righted with proper treatment.

The periodicals of the day abound in advertisements of quack nostrums for the ready relief and permanent cure of this disease. Against the use of such remedies the public cannot be too urgently warned. They are unsafe. No woman should knowingly allow any medicine to enter into an organ of such importance to her happiness as the stomach without either understanding something about it herself, or having it prescribed by some person she knows, and in whose honesty and ability she has confidence.

Hygiene of Suppressed Menses.

A properly-regulated regimen will do much not only to prevent amenorrhea, but will contribute largely to its cure. A liberal, good, nourishing diet consisting of cream and all-wheat porridge, bread abundantly supplied with good, fresh butter, roast and boiled meat, will be a suitable diet for patients whose suppression depends upon debility and lymphatic temperament, and who have not been well nourished. Baths, with free frictions over the body, warm clothing and appropriate exercise, especially on horseback, will contribute largely to restore the lost powers of the system that have interrupted the natural functions of the body. A trip to the seashore or to the mountain with pleasant social attendants, and with a

generous diet, have often proved sufficient to restore to the sunken, pallid cheek its lost size and color.

There is, however, another class of subjects, of the strong, sanguine temperament, whose diet should consist of bland, light nourishment. Nothing stimulating either of food or drink should be taken, and the patient should have complete rest. The general tendency of the physical economy of the system is toward restoration. At the same time proper means may be employed to assist the patient to a re-establishment of the menses, such as warm drinks of pennyroyal or ginger tea, and warm foot-baths or hip-baths, which will be found particularly efficient. Such treatment is attended with very satisfactory results, when suppression of menstruation has been induced by exposure to cold or dampness, or arrested perspiration.

The patient should be put to bed and covered with warm blankets, and, if general and free perspiration do not soon follow, it should be assisted by warm irons, bricks, or what is still better, gum (rubber) bags filled with hot water. If there be pain, warm compresses wrung out of hot water should be applied to the vulva and lower part of the abdomen.

If the suppression be caused by excessive mental impressions — as anger, fright or grief — means should be instituted to allay nervous irritability and restore harmony between the operations of the mind and the bodily organs. This will usually be accomplished by a general warm bath, with gentle friction and quiet.

When the suppression is accompanied with excessive

pain, a sitz-bath, warm fomentations, or hot poultices and injections of large quantities of hot water will be very useful. When, however, the suppression is the result of moral causes, a wise discrimination on the part of both parents and physician will be essentially necessary to overcome the accustomed manner of life. Until this be accomplished, medication will generally fall short of effecting any satisfactory results; in such cases, change of climate, change of scenery and surroundings, and attractive places of amusement will be found fruitful auxiliaries to the restoration of the patient's health.

The free use of furruginous waters — that is, waters impregnated with iron — sea baths, etc., will be well suited to the lymphatic temperament. If the suppression be caused by mental excitement in love affairs, marriage will be found a satisfactory means of permanent relief.

For all ordinary cases of suppressed menstruation, a regular action of the bowels should be had once or twice daily by the use of pills made of equal parts of myrrh and aloes. Tincture of iron in fifteen to twenty drop doses, three or four times daily, between the periods of menstruation and when its premonitory symptoms set up, warm baths and hot teas, as has already been suggested, will, if persisted in, be followed by satisfactory results.

Nervine root, as a domestic remedy and one that is quite safe, is very efficient. Take a handful of the root, cleanse well, bruise and boil a few minutes in a quart of water, and let the patient take half a teacupful of the tea three or four times a day, commencing a few days

before the expected time for the menses to appear. Or bitters may be made thus: A good handful of nervine root, cleansed well, cut in small pieces and bruised, aloes one ounce, cinnamon and allspice, of each half an ounce, nutmeg one-quarter ounce, powdered; whisky one quart; let the mixture stand a week, and take a dessert-spoonful three times daily. If the bowels should be too loose, lessen the quantity, or increase if not sufficiently open. If these hygienic directions be followed and aided by these simple remedies, and success do not crown the efforts, medical counsel should at once be secured.

Menorrhagia or Excessive Menstruation.

This disease has three phases; menstruation may be too profuse, too prolonged, or too frequent.

The quantity of the blood lost at a single menstrual period varies largely in different women, and sometimes in the same woman. What would be excessive for one woman would not be more than normal for another. Every woman has a knowledge of her average, either as regards quantity or duration. A woman may be said to have menorrhagia whenever she discharges more in the same time than she is wont to do; when her periodical flow is prolonged beyond the usual time; and when it recurs oftener than once a month, the waste being in excess of the monthly allowance.

As before stated, the normal period of menstruation is once every four weeks. The writer has known a few persons, in the enjoyment of fair health, who, all their

menstrual life, flowed every three weeks. The quantity lost at each time is estimated to be about six ounces, and the usual duration four or five days. But quite a wide latitude must be given both to quantity and duration. The writer knew a widowed lady, the mother of one child, who menstruated regularly every twenty-eight days, and never wasted at any one time more than a few drops, barely a stain. Should this woman flow as much as women usually do, she would have menorrhagia, and would require attention and treatment.

In menorrhagia, then, the quantity must be an unusual one to the person complaining, as some women discharge half a pint regularly and enjoy good health. The normal quantity in each individual depends upon constitution and temperament. An inordinate discharge depends upon temperament, and a free and strong circulation. Such temperaments predispose a determination of blood to any organ under excessive excitement. Hence, the womb, at the menstrual crisis, would fulfill this condition, and be subject to an abundant flow of menstrual fluid. An excessive quantity, however, is usually dependent upon a debilitated condition of the system.

There is another class of patients whose passions are strong ; on being exposed to over-excitement, from reflex action, their blood might determine to the generative organs, producing a degree of congestion that Nature would relieve by excessive menstruation. A state of luxury, indolence and indulgence debilitates the system so that it frequently happens that persons of a

sanguine temperament are comparatively weaker than others who possess a less degree of constitutional vitality. In such cases the vital powers are exhausted by some morbid stimulus, enfeebling the tissues, producing anemia, which results in an unrestrained flow of the menstrual fluid. Whenever, therefore, the quantity is increased much beyond what is natural, notwithstanding a sanguine temperament, it should be deemed excessive and means adopted for restoration.

Another class of women who are liable to menorrhagia are the nervous and irritable ; also those who are corpulent and of indolent habits and live in warm climates or occupy rooms of high temperature, have a predisposition to this variety of menstrual disturbance.

In addition to the foregoing constitutional tendency to menorrhagia, there is another class of cases that may be called accidental — such as are induced by exposure to sudden transitions of temperature, violent exercise of any kind, an excessive use of emenagogues to force menstruation, excessive indulgence in either eating or drinking, lifting heavy weights, falls, frights, or undue excitement of the passions.

There is a difference of opinion, however, among authorities as to the direct cause of menorrhagia. Some mention that the disease is local and not constitutional, and is due to irritation and inflammation of the womb and ovaries. The morbid sensitiveness, weakness and other disturbances present are not causes, but consequences of the diseased condition induced by reflex action. Prof.

Byford says "that it would seem probable that menorrhagia would be the rule with uterine inflammation, but such is not the case. I am not sure that even a majority of patients have it."

Very respectable authorities assert that, in many instances, the disease is entirely constitutional and not local. This seems to be the more accurate theory. Hence it is quite important for persons suffering this affliction to consult a physician, who may, upon due investigation, determine the cause in the case before him.

Women frequently suffer from hemorrhage from the uterus, which should not be confounded with menorrhagia, since both are accompanied with an excessive flow of blood from the birth-place. These long-continued, excessive flows of blood, accompanying some cases of menorrhagia, might not improperly be called passive hemorrhage, but active hemorrhage may take place in any organ, as the stomach, lungs, etc., and is quite common from the uterus, as a result of accidental causes. It may be induced from pregnancy, abortion, a blow, or a sharp instrument; also, by polypus, or tumor, cancer, or any serious ulceration of the womb. Unlike menorrhagia it has no regular period of occurrence nor of cessation, but will continue as long as the local cause producing it remains. Therefore there is a necessity for immediate interference, as a human life may be in jeopardy. In menorrhagia, the waste may be free or long-continued and the patient's strength largely wasted by the excessive

drain upon the vital fluid of the system, yet there is always sufficient time for the administration of proper remedies for relief.

Hygienic Treatment.

Hygienic treatment in this disease is of great importance, and should be administered with such judgment as to meet the indications in each particular variety of constitutional cause. If the patient be of sanguine temperament and the cause mental excitement, the cause should be removed and quiet and unstimulating food be enjoined. If the cause arise from over-taxing the mind by excessive exertion in any laudable calling, or undue ambition to excel in any department of study, entire remission in such pursuits will be essentially necessary. If the mind do not rest, but be kept under such continual exhaustion, it will lower the vital forces of every organ of the body.

Plethoric persons should be confined to a vegetable diet with acidulated drinks; these lessen the heart's action and relieve the pressure of blood on the uterine organs. If the menorrhagia be dependent upon anemia, debility, or any exhausted condition of the system, a liberal dietary exercise adapted to the debilitated condition of the patient and proper use of the bath-room should be enjoined.

Menorrhagia resulting from inflammation or structural disease of the womb is not within the scope of this work, but need only be referred to, that the patient be entreated, inasmuch as she values health, that she should consign

herself at once to the care of an honest and intelligent physician, giving an unreserved account of all she knows of the origin of her trouble, thus suitable and effective means may be adopted for its removal.

Medical Treatment.

A few suggestions in reference to treatment by medication are all that need be given. If there be anemia or debility, tonics are indicated. Tincture of iron in doses of from fifteen to twenty drops may be given three or four times daily, with a pill made of equal parts of aloes and myrrh.

Fowler's solution of arsenic in from three to eight drop doses, will be found an invaluable remedy, taken three times daily, if it does not materially affect the bowels. Some persons are very susceptible to this influence of the remedy. It will be found to almost always arrest the excessive flow in any variety of the disease if given in sufficient quantity and oft-repeated. But, for this method of administration, it is too potent a remedy to be entrusted in the hands of the inexperienced.

If the skin be dry and the wasting profuse, the administration of eight to ten grains of Dover's powders will be attended with beneficial results.

Injections of cold water, or alum and water, in proportions of one ounce of alum to one pint of water, and used at intervals will be found useful.

Tea made of cinnamon bark or nutmeg, which can be found in every kitchen, will always be at hand, and frequently does much good.

Dysmenorrhea or Painful Menstruation.

Dysmenorrhea is one of the most trying afflictions to which woman is subject. It is attended with the most intense suffering during its continuance, and the memory of it is carried over into the next return. The suffering is most intense, which is in itself a sufficient cause for sympathy. Its periodicity at such brief intervals and for so many years of the best part of life, is agonizing to contemplate. No one but the patient can understand the full measure of the pain endured at such times. It is to be deplored that with all the advancement of medical science, the most energetic treatment has very frequently proved abortive. However, this failure may be the result of a misconception of the cause of the difficulty. Painful menstruation can no more be reckoned and treated as an independent disease than can dropsy. Both are but the evidences of a deeper and more subtle trouble.

Congestion or inflammation of the mucous membrane of the uterus is attended with a fibrous exudation which tenaciously adheres to it. This exudation often thickens on the membrane and is expelled in fragments or in the shape of a sack, attended with bearing-down pains like those of child-birth. When the adhesion is very firm, the uterus will contract violently and spasmodically, and for hours or days the suffering of the patient will be most excruciating ; in such cases pregnancy is nearly impossible, but, when it does occur, it frequently ends the trouble.

Dysmenorrhea is occasionally of neuralgic or rheumatic origin, or due to nervous irritability of the womb, the spasmodic stricture of its mouth interfering with a free flow of the menstrual fluid, causing partial retention, and giving time for the blood to coagulate, each coagulation having to be thrust out by the contractile force of the womb.

Displacement or fluxion of the womb, tumors, or any mechanical obstruction may make menstruation difficult and painful. Women of sanguine and nervous temperament are predisposed to dysmenorrhea, particularly when they indulge in indolence, rich food, ardent spirits, wines, the pleasures of the sexes, or exposed to mental impressions of an exciting character. It is mostly a disease of unmarried women, and marriage frequently cures it.

There are manifold direct and accidental causes for this affection. Any shock of the system may induce it in subjects predisposed to it. Moral disturbances, sudden transitions from one extreme of temperature to another, and any morbid affection of other organs, are causes of this complaint.

The symptoms of dysmenorrhea are usually of a very violent character. They frequently commence three or four days before menstruation, and continue to increase in severity until the flow has begun fairly. They are aggravated by an erect position. The patient complains of pain in the back, extending to the groins, and pains all over the lower part of the abdomen, radiating frequently down the thighs. These pains may at first be sharp and

cutting, but gradually assume a colicky or spasmodic character. The blood, or menses, flows slowly. It may only be a mere stain upon the napkin; sometimes, however, it is discharged in clots; at other times, in membranous shreds or fragments.

In some persons the excitement is very great, and not infrequently produces hysteria or even convulsions. At such periods of excitement the breasts swell and become painful. The abdomen is frequently distended by gasses, accompanied by a sense of heat extending over the soft parts and into the vagina. The bladder at times sympathizes with this general disturbance, and then there may be a frequent desire to pass urine, which is accompanied with a burning or scalding sensation.

These symptoms are sometimes only premonitory and cease as soon as the flow is established, but, more frequently, especially if the discharge is not free, they continue, and are even intensified for several hours. They may not disappear until the end of the discharge. The flow is usually irregular, at times quite slight. It may, for a short period, entirely cease, at which time the pain is intensified and is followed by excessive wasting. Especially is this the case in women of highly-nervous temperament. In some women a free flow arrests the pain instantly. In very young girls, little can be done in a curative way until the womb is more fully developed. Its cavity is quite small and is distended by a small quantity of blood, which distention produces the pain.

When dysmenorrhea recurs at each menstrual period

for a long time, disorganization may be gradually induced and permanent disease established, unless proper and effective means be used to restore the parts to a healthy condition. Pathologists differ somewhat in regard to the cause of this painful malady. That as clear a view as is proper within the limit of a work of this kind may be had, the complaint will be divided into classes, the leading characteristics of each being given.

Simple Dysmenorrhea.

Simple dysmenorrhea is not complicated. It is either nervous or neuralgic, and is due to the morbid sensitiveness of either the uterus or ovaries. It is aggravated by mental excitement, exposure to extremes of temperature, fatigue, rheumatism, etc. A prominent characteristic symptom is great tenderness over the abdominal region, so that, upon the slightest pressure of the hand or clothing, the pain is intensified. At the approach of the menstrual period there is a sense of weight or fullness, with bearing down. Pain, more or less severe, is felt shooting into the bladder or rectum. When the flow commences the pain often increases and becomes spasmodic, amounting to cramp.

A young woman, while suffering extremely from such paroxysms, once told the writer: "I would rather have a baby than suffer in this way." Usually, in the course of a few hours, the menstrual flow being fully established, the pains subside gradually, to the great relief of the patient. Occasionally they continue through the whole

period. During the intervals of her "periods," she feels entirely well, with no sensitiveness of the parts. This proves that there is no local inflammation. In short, the characteristic symptoms of this class are the suddenness of the attack, its severity and paroxysmal character, and its recurrence month after month without affecting the general health.

Accidental Dysmenorrhea.

The accidental form is usually of little importance, being the result of improprieties in hygiene on the part of the woman, either immediately before or at the time of menstruation; exposure to cold, or by getting the feet wet, or, with some, even putting the hands in cold water. Over-fatigue or excitement will induce painful menstruation, but the patient will be all right the next period.

Congestive Dysmenorrhea.

The congestive form may be easily distinguished from the others by irregular discharges, voided in clots of blood — congestion in an excessive degree only, for limited congestion is the cause of any flow, so the menses are the necessary result of congestion. In this variety, the blood-vessels are excessively enlarged, causing pain and nervous sensibility, which may be brief but nevertheless severe. This extreme nervous irritability may induce vomiting, convulsions, or hysteria, which subside as soon as the flow is sufficient to relieve the distention of the blood-vessels.

Inflammatory Dysmenorrhea.

Another variety is called inflammatory. This may be taken to include membranous, though the latter is treated by some authorities as a distinct class. But, as the symptoms of both are the same — pain and fever — and affect the same organs, they can appropriately be considered as one. This variety is not constitutional, but arises from inflammation of the ovaries and uterus. It rarely commences at puberty, like the constitutional, but occurs at any time in married and unmarried women. Whenever that morbid condition of the womb and ovaries exists, the suffering continues during the whole period of the menstrual flow, and leaves the parts tender for a time after it ceases.

The whole system sympathizes with this local inflammation and increase of temperature, accompanied with additional febrile symptoms, languor and anemia follow, giving a general and continued evidence of physical deterioration. The flow is accompanied with membranous shreds. Sometimes the membrane will be discharged in the form of a sack, or cast from the cavity of the uterus without losing its shape or integrity. The discharge is accompanied with severe pain. At other times there will be present all the inflammatory symptoms, but none of the shreds will be seen in the discharge.

Obstructive Dysmenorrhea.

The obstructive variety is the result of physical defect in the uterine neck, such as constrictive deformities of

structure, or malposition of the womb ; thickening of the mucous membrane, resulting from previous and repeated inflammations, adhesions, tumors, and closure of the vagina The symptoms of this variety do not materially differ from the others, the characteristic symptoms being excruciating pain of an expulsive character. The pain is compared to colic, the term uterine colic being very appropriate.

If obstructive dysmenorrhea be suspected, a skilful physician should be called, that a thorough examination of the uterus and its surroundings may be made. Should it be caused by a tumor, the enlargement may be detected through the abdominal walls. Displacement of the womb may be suspected if there be pain in the back, sensation of bearing down, desire to void water, and voiding with difficulty, or constant ineffectual desire to evacuate the bowels. Entire closure of the passage may be suspected if all the suffering and pain of dysmenorrhea be experienced without any discharge of menstrual fluid.

Some other varieties of dysmenorrhea are given by authors, but they are not of sufficient importance to introduce here. The above will suffice to illustrate the nature and gravity of the disease, and to prevent serious consequences arising from the neglect of efforts to prevent the mildest form. An unwarranted modesty should not prevent the patient from calling a physician, and submitting to such examination as may be necessary to as fully as possible discover the real cause, that proper remedial means may be adopted for complete relief.

It will be evident, from what has been said, that dysmenorrhea, in some of its forms at least, is no trifling ailment, although it does not frequently jeopardize life. Many patients will tell you that if they could only die it would be a pleasure; that the thought of living only to endure such suffering every few weeks is unendurable.

Hygiene.

There is no disease where the rules of hygiene should be more strictly observed than in this, the beneficial effects being always apparent. Every possible means should be used that will assist in the proper and healthy establishment of the menstrual function in young girls. If this process begins with pain, they should be taken from school, or any other place of confinement, and from all excitement and mental labor. They should be allowed perfect freedom of the open air, with suitable and healthy amusements. The diet should be light, nutritious, and largely vegetable. The strictest precaution should be taken to see that the bowels be evacuated every day. Constipation is at no time in harmony with health, and frequently the cause of disorder.

It is not uncommon for mothers to seek relief for their daughters by the free use of alcoholic stimulants. This practice is not safe. It is dangerous, if it be a case of inflammatory dysmenorrhea. The stimulant only adds fuel to the fire. If there be much obstruction it can do no good, and much harm may result if an undue appetite be created for this kind of indulgence.

Stimulants, no doubt, may relieve in the neuralgic variety, but, inasmuch as they do not cure, and may do much harm, it would be better to consult a physician, so that an intelligent line of treatment may be adopted and carried into execution.

Opiates are frequently resorted to for this painful trouble. These, administered intelligently, are a great blessing in freeing the sufferer from such intense pain. If they be indiscriminately used, at all times, they are fraught with serious consequences. If the habit of opium-eating should be established by such frequent resort to it, the result would be that the cure would be worse than the disease. The writer has been hailed as the messenger of peace when he had administered about half a drachm of bromide of potassium by the mouth and from one-half to one-third grain of morphine hypodermically.

A very efficient remedy for much of the trouble in this affection will be found in one-drachm doses of equal parts of the fluid extract of blackhaw and Jamaica dogwood, repeated every three or four hours.

Expectancy, no doubt, exerts a powerful influence over this, as well as many other diseases. Not long since the writer was called to the bedside of a young woman raised in easy life, who had suffered more or less pain at every menstrual period for a year or more, and whose symptoms increased in severity at each change, until the pain resisted not only all the remedies that had before in some measure soothed it, but was altogether unbearable. After he had failed to give relief with the sitz-bath and continued

injections of hot water (both of which he has found frequently very beneficial), he resorted to the morphine and potassia, as above recommended, and soon the patient was happy. At the time of the next period she was very anxious to take a trip in company with a friend to the State Fair, and visit her brother, who lived in the same city where the fair was held, but her menses, which were to occur at that time, appeared to be an insurmountable barrier. Hence, she called on her physician to inquire if she could not carry one of those potions with her, and take it at the approach of the pain. Seeing her anxiety to make the trip, a potion was prepared, mixing together the ingredients for convenience. The next day after her arrival at the fair, while she was busying herself to see all that was possible before her expected sickness, she was happily surprised to find herself menstruating, with no pain, and no need to take her medicine. The exercise, with the diversion of the mind from her expected trouble, had much to do in giving her entire freedom from pain.

It is observed that this disease occurs much more frequently among women who live in comparative ease than with those who have plenty of exercise in the open air, and busy themselves temperately in household duties. Young women, daughters of men of means who have servants to attend to all the household duties, dress themselves in close-fitting attire, perhaps two or three times daily, with an underdress (or corset) too tightly laced, that presses on the abdomen, impeding the circulation of the blood so important to the organs contained therein,

reducing the cavity and forcing the bowels down upon the delicate organs of generation. In this condition they sit about on low chairs, that have a tendency to increase the pressure. Is it a surprise to find so many of them afflicted with some species of female trouble ?

Diseases From Derangement of Menstruation.

The establishment of the menses is frequently subject to the derangements of which mention has been made. This development sometimes gives rise to certain diseases peculiar to women and to this function. Among these diseases may be named chlorosis or green sickness, chorea or St. Vitus' dance, hysteria, etc. A brief consideration of these may be given here.

Chlorosis is not properly a disease of the generative organs of women, and would not be entitled to a place in this volume were it not that amenorrhea, or suppressed menses, is connected with it. Its principal characteristics are intense paleness of the skin, lips and lining membrane of the eyelids. It is a paleness having a greenish hue (from which the disease takes its name). At times the color is yellow, when it is mistaken for jaundice. The manifest and peculiar paleness of the lips and of the membrane over the eyeball, is a most infallible evidence of this condition.

The disease is characterized by a lack of the red globules in the blood, and transfusion of the watery portion through the veins into the skin, causing dropsy of the face, feet, and body. It is the dropsical condition that

gives the puffy appearance. This disease, when long continued, gradually weakens the patient, whose system, under the general anemia becomes deranged. The appetite is lost or perverted to a desire for strange things, such as slate-pencils, chalk, clay, salt, vinegar or pickles. Then a sensation of weight oppresses the stomach ; digestion is retarded, giving rise to evolution and belching of gas ; the respiration becomes labored, and palpitation of the heart is induced by the slightest exercise or mental excitement. This low condition predisposes the patient to neuralgia, which may affect the head, the neck, the eyes and the back or any other part of the body.

Various theories have been advanced by pathologists regarding the exact nature of the disease. They agree that the absence of menstruation is not so much the cause as the consequence of disease. Although chlorosis generally occurs at puberty, yet it may affect those who have menstruated, and even married women.

The disease is generally curable, particularly in women of good constitutions who have usually enjoyed healthy food and pure air. The danger lies in the organic diseases that may follow : Valvular diseases of the heart, dropsy, paralysis, hemorrhages and consumption. The establishment of the menses is the most reliable sign of the return of strength and health and of complete recovery.

Among the most common causes of chlorosis are great mental anxiety, overwork in the school-room, lack of open-air exercise, etc. Let these causes be removed by proper hygienic regulations. As the disease is largely nervous,

the remedies should be applied in this direction. It is a complaint which is hardly susceptible of self-cure. Competent medical counsel should be sought and followed.

Chorea, or St. Vitus' Dance.

The disease known as St. Vitus' Dance received its name from a dancing mania that prevailed in Strasburg, A. D. 1418, at a celebration of St. Vitus, in which the people commenced to dance to music and continued until completely overcome by fatigue. However, chorea seems to be a different disease from that which so suddenly developed at the celebration referred to, and is of more recent date.

It consists in a tendency to involuntary and irregular muscular contractions of the limbs and face, the mind and the functions of the brain being quite unaffected. The spasms of chorea differ from those of most other convulsive affections in being unaccompanied by pain or rigidity. They are but momentary, jerking movements, indicating rather a want of control of the will over the muscles than any real excess of their contraction.

In some cases the disease resembles merely an exaggeration of the restlessness and fidgetiness common among children. In others it goes so far as to be a very serious malady, and may even threaten life. Fatal cases are fortunately very rare, and in a large majority of instances it yields readily to treatment carefully pursued, or disappears spontaneously as the patient grows up.

Chorea is a disease much more common among

children and young persons than after maturity. Ninety per cent. of all the cases occur under twenty years of age. The ratio in sex is three girls to one boy. This shows its relation to nervous influence. It is most common between ten and fifteen years of age, which is an evidence of its being to some extent influenced by the establishment of menstruation. It is more common in northern than southern climates, and is rarely seen among persons of purely African blood. This would indicate that a cold, changeable climate is productive of this disease, as is also a fine nervous temperament, which is rarely met in the pure African.

The causes influencing the disease are high-sexual development, nervous temperament, sudden fright, suppression of any customary discharge, uterine disorders and intestinal worms. Some children appear to get it by sympathy for other persons suffering from its attacks or from imitating them. Rheumatism is said to be a cause, but this is without foundation. Cases where chorea is associated with rheumatism would be better called a rheumatic affection of the spinal cord.

Symptoms of Chorea.

The system may or may not be deranged. Most cases begin gradually by want of good digestion. Capriciousness, headache, low spirits, timidity, irritable temper and an inability to sleep well are premonitory symptoms. Then begin slight jerkings of the muscles of the mouth and head; then the tongue is affected and speech becomes

impossible from spasms of the tongue and muscles of the lower jaw. By and by the patient is wholly choreic by involvement of all the muscles of the body. He is restless and unable to stand still. Muscular co-ordination is impaired, from which the limbs are not subject to the will. The upper limbs are more affected than the lower ones.

There is general debility which aggravates the symptoms. In bad cases the erect posture cannot be maintained. Later, the muscles of the trunk are involved, and the patient cannot be kept in bed. Spasms of the muscles of the face occasion grimaces. Nevertheless the spasms are somewhat under the control of the will, for the spasmodic movements may be stopped by a strong effort of the will. The spasms cease entirely during sleep. Occasionally the choreic movements are confined to one side of the body.

In aggravated cases there is general nervous debility. The mind becomes affected and imbecility may set in, or else the patient becomes very timid and seeks holes and closets to get out of sight. Chorea is generally an acute disease. It rises to a certain point, remains stationary, and spontaneously declines, with a tendency to recover. Some cases last only a few days ; exceptional cases last for years. When it develops in pregnancy, parturition generally stops it. If it occur in a girl at puberty, it generally disappears on the establishment of the menses; if on account of suppression of menstruation from cold or any accidental cause, it usually subsides on the re-establishment of the flow.

Treatment of Chorea.

Many doctors do not place any reliance upon medication, but try to remove the cause. An effort should be made to re-establish a normal condition of health in all the functions of the body. When this point is reached the disease disappears. The rules for hygiene should be assiduously enforced. A shower bath to the spine, and artificial or natural sulphur baths and sea-bathing are useful. Gymnastic exercise will have a beneficial effect in tending to correct irregular movement of the muscles and tone them up, if often and regularly persevered in, but not carried to the extent of fatigue.

The digestive organs should be carefully watched. There should be a liberal supply of easily-digested, good, nutritious food. Milk laxatives, repeated at intervals, have been found curative in cases where there has been defective hygienic conditions — as constipation, loss of appetite, or worms. If worms be suspected, the addition of turpentine to the laxative will be found serviceable. Whether purgation should be active or light depends on circumstances. The bitter purgatives are best.

The debilitated condition of the nervous system will demand attention, and effectual means should be adopted for its restoration. If the patient be pale and apparently bloodless, the preparations of iron will be found useful in restoring the equilibrium of the blood corpuscles. The preparations of iron may be combined with the vegetable bitters, as gentian, calumba, etc. To allay the spasm,

ether may be applied to the spine by an atomizer till the skin becomes white, but not frozen. Currents of electricity of low intensity are good.

Hysteria.

Hysteria has long been used as the name of the malady that is to be described, but there is no appropriateness or significance, nor does it reveal anything of its history. *Hysteria* literally signifies *womb*, and received its name because, like the organ, it is peculiar to women (which is denied by some) and is generally met during the development of the uterine functions. It rarely happens before puberty or after mature womanhood.

The disease is but little understood by people generally, presenting as it does such diverse manifestations. Patients suffering from it are deserving of commiseration and kindness both from physician and friends. In some patients it causes merriment; in others, sorrow; in some, veneration; in others, contempt.

How humiliating it must be to a girl when she realizes that some power, acting independently of herself, is causing her to laugh when she ought to weep, or weep when she ought to laugh. She has no command over herself, the body acting in utter disobedience to the will. Imagine a young woman talking immoderately in situations where prudence and modesty demand that she should keep silent; or revelling in fits of ecstacy when soberness would be more appropriate; or writhing and twisting and exposing her person, putting at defiance

both modesty and self-regard. She suffers at times with severe pains, intensified by the slightest movement, or it may be an entire want of feeling, accompanied by utter inability to move a single muscle in some parts of the body, followed by the consoling remark, by physician or friend, " It is simply hysteria ! "

How uncomfortable must be the sensation of a ball rolling up the throat, as if to choke one to death! At other times, every muscle of the body contracting, forcing the movement of the limbs with such energy as to defy the resistance of able attendants, and then, in a moment, a body motionless and still as death. Through all the changes, the pulsation of the heart, the great master-wheel of life, moves as smoothly and beats as calmly as if nothing were wrong.

Such are some of the manifestations of this wonderful affection called, for the lack of another name, " Hysteria." Its symptoms are so varied that a whole book might be written giving their descriptions. Yet, with all the patient's suffering from the effects of this disease, she receives no sympathy from friends or neighbors, simply because the disease does not kill. Is it true that the only type of disease that should evoke our sympathy and demand our commiseration for its victim is one that kills? How many poor human beings, in extreme anguish with this peculiar affection, are made to suffer still more intensely by the unfeeling reminder that it does not kill ! How many have been heard to say: " Oh, if it would only kill, so that I might have some hope of emancipation from

this unfeeling task-master, it would be a source of some pleasure, but to think I can't ever die, distresses my very soul!"

Perhaps no disease in the whole catalogue of ailments has been so full of pathological perplexity as hysteria. Little is known of it, although it is prevalent in most countries, and presents a wide variety of symptoms. In the early history of pathology the uterus was believed to be an animal, and hysteria was supposed to be the wanderings and vagaries of that animal within the body, as if in a frolic. But, in the later development of pathology, numberless theories were advanced without reaching any conclusion that was free from unanswerable objections.

Some hold the opinion that it is the result of a morbid condition of the uterine nerves; others attribute it to a morbid condition of the stomach and bowels; others to a congested condition of the lungs and heart; to spinal irritation; to cerebral excitement; to displacements of the womb, or any serious lesion of that organ, or any disturbance of its functions. It is not our purpose to enter into a pathological discussion of this mysterious phenomenon, but only to give some evidence of its differential effects upon subjects. Although this malady is found among all classes of women, and but rarely among men, and then only in a mild form, it is seldom met among the working classes. Its principal sphere of action is among persons who lead an indolent life. The predisposing constitutional conditions of hysteria are temperament, especially the nervous, and such as are either lazy or feeble.

Hysterical patients are largely developed among those girls in whom Nature is making an effort to establish the menstrual epoch. From this experience, no doubt, the theory was evolved that the disease had its origin in the reproductive organs. The disease may be attributable to extremes of heat or cold, and dampness; to violent exercise or fatigue; to irritating articles of diet and spices; to tight-lacing; to too-frequent ablutions of water; to love or jealousy; and to disappointment, especially in love affairs. The more immediate causes are fright, anger, reproach, violent and sudden affliction, improper conversations, the sight of repulsive objects, sudden joy, the unexpected appearance of an object of love or hatred, or irritating applications to the skin. From a moral standpoint hysteria is infectious, and should it in a company of women seize one individual, more may be similarly affected. Indeed it is surprising, when it breaks out in a boarding-school, to see the large number that may be attacked. It is recorded, upon good authority, that a certain boarding-school had to be suspended and the girls sent home on account of the moral effect of the development of the disease in a girl in the presence of the class.

Persons most likely to be affected by this disease manifest all the traits of a very impressionable nature. They are light, frivolous, and very friendly to their own opinion, often fanciful and hasty, and in disposition very changeable. They easily pass from the most violent expressions of joy, from excessive fits of laughter, or the

most affectionate caresses, to sulkiness, pouting, sighs, tears and bitter reproaches, even to regret, self-accusation and melancholy. It is claimed by some that hysterical persons dissimulate, and feign ailments that do not exist.

It is told of a lady who had kept her bed for months, despite the remonstrances of friends and medical attendants, that the ruse of setting her bed on fire was resorted to, and that, in her fright, she flew out of bed and house, although she had always insisted that it would be death to her to move from it. She returned to her home and couch, but like other people and in a natural condition, and from that time retired and rose regularly without the slightest apprehension or sickness.

I remember having been called to see a young woman of nervous temperament, very impressionable traits of character, light, frivolous and opinionated. She had, either by dream or otherwise, got the notion that, at 1 o'clock upon a certain night, she was going to die. I, as well as her friends, endeavored to relieve her mind of this fanciful impression, but without avail. On the night set for the sad event, about an hour before the arrival of the "fatal hour," she sent a messenger to summon me to her bedside, wishing to see me once more before departing this life. Through the importunity of the messenger I went, but without any faith in the prophecy. On my arrival I found gathered around her bed her weeping mother, who was little less visionary than her daughter, and a large number of friends, who were more or less credulous, and whose countenances wore the evidences of

deep distress. It was only a few minutes before the fatal hour. I remonstrated with her, assuring her that it was all a fancy ; that there was not the slightest evidence of the coming of death. She could not be persuaded, but, bidding farewell to all her friends, like Hezekiah of old, "turned her face to the wall," and endeavored to die. It is scarcely necessary to say that the attempt was a failure, and she was soon, as usual, attending to the affairs of life. Although this occurred almost a quarter of a century ago, she is still living in the enjoyment of fair health, the mother of a family.

There are numberless diseases that under the influence of hysteria are greatly aggravated. Hysterical coughs are not infrequently so exaggerated as to lead one to suppose that some serious lesion of the lungs or air-passages may be developing. Many cases of hysterical palpitations of the heart are known, of such violence that it has required the utmost difficulty to persuade the patient that there was no organic disease of that organ ; that the disturbance was the result of a peculiar derangement of the nervous system. The physician does not dare to say hysteria, as that name is remarkably offensive to a person suffering from its effects.

In the history of a long practice in the medical profession it is surprising to note the great variety of the peculiar cases of this singular disease that may be called up. It would fill the inexperienced with wonder and astonishment. Feigning pregnancy is not an uncommon freak in this wonderful disease. The writer has a vivid

recollection of a woman who had been married for a number of years, but was childless, and remained so. But she thought herself pregnant, and imposed the deception upon her husband. He consulted the family physician concerning the long-hoped-for condition of his wife. The physician, after a careful examination of all the evidence, diagnosed a case of hysteria, but did not darken the patient's hope of a prospective heir by revealing the real state of affairs. The patient, who in her own mind already had unmistakable evidence of her pregnant condition, was left to the enjoyment of her fancy. Months rolled on, until the time for her expected delivery was at hand; as is frequent, she feigned sickness and pain. A few of her lady friends were gathered in, and the physician was summoned. She labored in great pain, but was unsuccessful in bringing forth, which very much disappointed her. But it seemed to have a beneficial effect upon her hysterical affection, as she never manifested any special hallucination afterward.

This case would not, however, have developed into such unpleasant consequences had her husband been more decided in his opposition to her fanciful notion. But, being himself of an impressionable nature, he was half-disposed to persuade himself that her condition was not simulated, but real. Yet it seems as if the shock to the mind caused by the humiliation produced by such circumstances is attended with absolute freedom from successive attacks.

It sometimes happens that hysterical patients feign

death. A case of this kind is related upon the authority of a reputable physician: A woman was apparently dead, and had been visited by a number of physicians, all of whom agreed that she was not dead, but dying. She had been in this condition for eight days, and both friends and physicians were seriously concerned for her. It was suggested by counsel that her physician should go to her, bid her good-by, and tell her, that, inasmuch as she would die in a few hours, he need not return. He was not to leave the room, however. He was to conceal himself in such position that he could see the eyes of the patient. The understanding was that if she winked, or if the eyelids trembled, it was a case of hysteria. An injection of asafœtida mixture was then to be given, as she refused to allow even a drop of water to pass into the mouth. This course was followed. In half an hour she opened her eyes as from a deep sleep, and spoke to her attendants as if nothing had been the matter with her. What was strange, she never afterward alluded to the affair.

Hysterical convulsions may be mistaken for epilepsy, but the inexperienced need not be misled. A fit of epilepsy is sudden, with entire loss of consciousness, while hysteria is gradual, and the loss of consciousness is never complete. In addition to this difference, it may be added that epileptic patients froth at the mouth, with frequently an admixture of blood, occasioned by wounding the tongue with the teeth, by the convulsive action of the muscles of the jaws. But these phenomena are never present during an attack of hysteria.

The author was called to see a patient not long since who was said to have paralysis. He found her in bed, unable, as she averred, to move her left arm or left leg. Upon inquiring into her history it was found that she had repeatedly had similar attacks. Upon further investigation it was discovered that, from imprudent exposure to cold, she had suppression of the menses. I diagnosed a case of hysteria. She was given treatment to overcome her suppression, and, in a couple of days, all traces of her paralysis disappeared. Her preceding attacks of paralysis had occurred in similar circumstances

Aphonia, or sudden loss of voice, is not infrequently a manifestation of hysteria. This is the cause of great alarm to friends; as no other trace of this disease may be present, hysteria may not be suspected.

Severe pains in various parts of the body and limbs are the most common simulations of hysterical patients. Such assumptions of pain have kept women in bed for months, undergoing the severe ordeal of fomentations, plasters, blisters, etc., aided by active constitutional treatment, without any improvement. Such patients frequently persuade themselves that it is impossible for them to move. They keep their beds for months, when they could have arisen at any time and walked.

A very striking instance of this simulated illness is related by Dr. Bright of a young lady patient who had kept her bed for nine months. On attempting the slightest movement she was thrown into paroxysms of excitement and great agony. There was no evidence of any disease

whatever. She protested against getting up, vowing that it was impossible for her to move. Her physician, not being able to afford her any relief from her feigned disease, left her for a month, and, on returning, was agreeably surprised to find her well. Under a deep religious impression she had abandoned her hallucination and gone to work.

It is upon this class of patients that spiritualists and "metaphysicians," as they style themselves, perform such wonderful cures. Through the influence of the mind, they put patients under a stronger impression; they get well because there was no physical disease. If such charlatans would confine themselves to curing hysteria, they might be of benefit to society. When they unrighteously undertake to cure absolute lesions of the body through the operations of the mind, impressing upon their patients that they are not sick, that they only think they are, they should be regarded as impostors and treated accordingly.

Simple hysteria is easily detected. For any trivial cause that should do no more than cause a smile, hysterical women laugh immoderately, and not infrequently end in sobbing and crying. During a play in which several persons are engaged, any unusual or general merriment will throw a girl into an immoderate and irrepressible fit of laughter, soon to be followed by long and deep sighs, which are efforts to gain breath. The fits of laughter may be alternated with fits of crying, and as if in terrible distress. If these fits of laughing and crying be not

immediately arrested by an extraneous effort on her part, or her mind be not quickly diverted from whatever excited the laughter, the fits become stronger, and are frequently followed by a bolus or ball coming up her throat, choking her until she gasps for breath. She violently grasps her clothing to relieve her throat. She may become partially convulsed and throw her limbs, or grasp at anything within her reach, and press her fingers into it with unusual force ; or she may spread out her hands and fingers as though they were sticks. She may have an intermission and relaxation for a moment, only to be followed by a return of the paroxysm. These remissions are employed in wailings and moanings, and relations of her abandoned condition. Every person is against her, no one loves her, and she refuses to be comforted. She tells strange things, and reveals her secrets, no matter whether they expose herself or injure her friends. There is no certainty how long this condition may continue. It may subside in a few minutes ; it may last for hours, or even days.

The writer remembers an instance in which it continued for a fortnight. Another, in discussing the subject of hysteria, relates a case that occurred in his own practice, in which a lady who had received a mental shock fell into a hysterical fit, and, for twenty nights following, these fits recurred, commencing about 9 or 10 o'clock in the evening, and ending between 4 and 5 in the morning. During the day she was as well as usual, and it did not seem as if another attack would recur. Yet, when even-

ing arrived, she became hilarious ; her eyes sparkled, and she became talkative and witty. These were premonitory symptoms of another attack ; they would change in their order of appearance. Generally, while in this talkative state, during which her eyes were closed, she would relate amusing stories about herself, her mother, sister, doctor, or any one else, or repeat Shakespeare by the page. Suddenly she would startle the attendants by a piercing shriek, exclaiming, " It is coming ! " pushing her hands upon her temples. The *clavus hystericus* was upon her. From this she would pass into a convulsion, in which she would make a bow of her body backwards, so that pillows had to be put against the headboard of the bedstead, lest her nose should be broken. She would come out of these convulsions in two or three minutes, but in a moment more the " spike " would be driven through her temples again, inducing the same alarming shrieks, to be followed by another similar convulsion. This would last sometimes an hour or two, when vomiting would supervene, and the body would remain relaxed. This vomiting was, if possible, more distressing than the previous condition. She would retch violently, vomiting only a little gluey mucus. In an hour or so this would pass off, and she would fall into a semi-trance, answering questions, but following her own thoughts, and, with a smile on her face, would tell the amusing incidents of her life, or of those of persons present, or of absent friends. Finally, she would fall into a doze, from which she would come out refreshed and ready for her breakfast.

This lady had had a similar attack years before. She was cultured, endowed with a fine nervous organization, and was not a hysterical woman in the common acceptation of the term; she was brilliant in society, but always self-possessed. After twenty nights of such torture she came out of that condition slightly weakened, but with unimpaired health. Fifteen years have now passed, and although she has had her share of human sorrow, hysteria has not again disturbed her.

It is the characteristic of this disease that no matter how long it may be prolonged, it rarely affects materially the digestive organs. The appetite remains unimpaired, and the general system manifests no disposition to succumb to these distressing symptoms.

It is truly a mortifying and embarrassing sickness. Yet no death from uncomplicated hysteria has ever been recorded, and this, as has been already remarked, together with the peculiar and often silly behavior of those afflicted in this way is the reason why many esteem it so lightly.

Treatment of Hysteria.

As remarked, it is a lamentable fact, and must coincide with the experience of every honest practitioner of medicine that, strictly speaking, medication has been able to accomplish but little toward the permanent relief of this troublesome ailment. It is undoubtedly true that in the hurry and bustle of the life of a busy practitioner, he may, in a proper and expeditious application of the great list of

anti-spasmodics give timely relief to a large number of these nervous patients. But he cannot generally be expected to devote the time necessary to enable him to permanently benefit them.

Every individual case requires a careful and independent investigation of all the factors that enter into the attack. A respectable authority, Dr. Mitchell, says upon this point: "A careful study of the girl's character, of her home surroundings, of the incidents of social life, which come with the development of possible passion, will be the best guide to treatment, and, with the obvious indications given us, by distinct physical ailments, local or general, constitute our chief resources."

If upon feeble, exhausted women there be precipitated changes of social circumstances, love affairs, disappointments, or physical accidents, invalids will be created who unite their exhausted state of system with a bewildering list of hysterical phenomena. These are the cases of bed-ridden, broken-down, hysterical women that have baffled the best-devised remedies at the command of a faithful practitioner and driven him to despair of a restoration to health. They remain the pests of households, wrecking the constitutions of nurses and devoted friends, and, in conscious self-indulgence, destroying the comfort of every one around them. Of these chronic hysterical invalids, who have been neglected in the early manifestations of their affection some attempt has been made to speak. A full and complete description of all hysterical phases would beggar the most graphic pen.

It is, however, my duty, for the benefit of those whose ears are not so heavy that they will not hear, to protest loudly against the neglect of incipient cases, lest they be drifted against the rocks and shoals upon which so many have been shipwrecked. This, being a disease peculiar to women, the question naturally presents itself on the very threshold of a discussion of remedial agents: "What are the distinguishing characteristics of the agencies that have to do with the physical life of boys and girls, and that are found with such unequal results?" It is not sufficiently satisfactory to the observing mind to aver that these consequences result entirely from varying physical organisms. These physical constructions, both as to the organs themselves and their functional developments, are the handiwork of Him who formed them with such skilled appropriateness and adaptation to the end to be attained. It would not become the creature to arraign the intelligence and the benevolence of the Creator before the lesser majesty of natural law, upon the charge of having so formed and fashioned one-half of the human family that, in the organic functions of the body, suffering and disease must inevitably follow.

We must look in some other channel than the normal operations of the physical organisms of woman to account for her disparagement in this matter. I maintain that it is the result of her literary education; that her mental faculties are expanded beyond human powers of endurance by being placed alongside of her brothers in class, and stimulated by their ambitious nature to emulation of them.

The result is collapse and wreck. It has been demonstrated beyond the possibility of a doubt, that though the mental faculties of woman are of a finer texture than those of men, they are composed of more "shreds," which make the mental chords equally strong and susceptible of even greater strains. Yet, if man were exposed to the same mental strain of woman in those peculiar circumstances, in which she looks forward to hours or days of pain and anguish, the asylums of our States would need to be greatly enlarged for his benefit. It is, however, believed that the key to the present inquiry may be found in the term *education*, if it be taken in its generic sense, which would include all that is involved in education, mentally, morally and physically. A manifest defect in either one or more of these different species of education is patent in the training of the girls of our country.

Some light may be thrown on the education of American children by a quotation from one of the periodicals of the day. It is perhaps as pertinent as anything that could be offered: "In fashionable and would-be fashionable circles, the poor little infants are dragged to balls as soon as they are weaned, and converted into hot-house little men and women. The books furnished to them, the matinée entertainments provided for them, are but calculated to arouse adult passions and thoughts into abnormal, monstrous growth. There is no such thing as a nursery in the majority of American city homes. The children are left to the care of ignorant, hired *bonnes*, or Irish girls. They swarm in the halls of boarding-houses,

or haunt the servants' rooms, trying to stretch their little brains to grasp the ideas that reach them there. When they are passed out of babyhood they are dismissed to schools, where they learn good or evil, as paid teachers or their companions choose. Let any one observe the groups of flaunting, half-grown girls on their way to school in the cars, or the over-dressed coquettes, misses sent out to parade the streets to display their clothes on a fine afternoon, and listen to their conversation, and he will not wonder at their escapades into marriage or of a worse fate. It is not book publishers who are to blame; it is not play-wrights; it is not the French *bonnes* or Irish nurses. They furnish what the public demand of them.

"The one thing needed to give us a generation of modest, chaste gentlewomen in our daughters, is mothers — mothers who know their business and who do it; mothers who have the sense to see there is a time in a young woman's life, as in a man's, when animal spirit or excess of vitality needs outlet; mothers who can guide their daughters through this strait in all innocence and purity instead of subjecting them, from their very birth, to treatment which forces every impure element of their nature into unhealthy and obnoxious action."

Sound remarks by Sir Benjamin Brodie on this point are no less pertinent. He says: "You can render no more essential service to the more affluent classes of society than by availing yourselves of every opportunity of

explaining to those among them who are parents how much the ordinary system of education tends to engender the disposition of these diseases among their female children. If you will go further so as to make them understand in what their error consists, what they ought to do, and what they ought to leave undone, you need only to point out the difference between the plans usually pursued in bringing up the two sexes. The boys are sent early to school, where a large portion of their time is passed in taking exercise in the open air, while their sisters are confined to heated rooms, taking little exercise out of doors, and often not at all, except in a carriage. The mind is over-educated at the expense of the physical structure, and, after all, with little advantage to the mind itself; for who can doubt that the principal object of this part of education ought to be, not so much to fill the mind with knowledge as to train it to a right exercise of its intellectual and normal faculties? Or that, other things being the same, this is more easily accomplished in those whose animal functions are preserved in a healthy state than it is in others?"

In summing up the treatment of this singular phenomenon as it presents itself to the practical observer, by far the most efficient elements will be found in the interceptive treatment. This consists in a thorough application of the principle of hygiene as has been assiduously recommended in this work, through all the phases of life. Good exercise in the open air is all-important. Air is the life-supporting principle of the nervous system; it sup-

plies the body with oxygen, and makes it pure and healthy; by it every element in the physical structure of the individual is developed and made strong to withstand any unfavorable moral influences that accident may put in the pathway of life. It is also necessary to avoid the evil influences that are so frequently associated with school-girl life; that tend to lead the mind by a gradual, insidious process until the unsuspecting, innocent girl is caught in the foul snare and held by fetters as strong as uncontrolled passion can forge out of the indeterminable depravity of the sensual heart; for it is conceded that love, with all its immoderate desires and disappointments, lays the foundation for this disease, which, when once acquired, will only leave the victim when Nature has reached her limit and the body entered its season of decay.

General Exhaustion from Disturbed Menstruation.

Having spoken of the disorders of menstruation and the proper means to be adopted to overcome them as well as of some nervous diseases that may develop under the influences consequent to such functional disturbances, there still remains a constitutional effect of which something should be said. The reference is to a general exhaustion of the vital forces of the system, which is sometimes seen in girls who have had trouble in their monthly sickness. It not only develops great nervous irritability, but a general wasting of all the tissues of the system. The patient grows pale and wan. The eye

loses its accustomed luster; the lips are pale and bloodless; there is more or less headache, accompanied with giddiness; the hands and feet are usually cold and moist, with a clammy, unpleasant sweat; not infrequently the patient complains of nervous pains in different parts of the body; there may be a sensation of absolute exhaustion, as though the body had not the strength to hold together.

These attacks may come on suddenly and without warning. The feeling of real strength is variable. At one time of the day the patient may accomplish some physical undertaking. At other times she is unable to do anything. At times, sitting quietly in a chair seems to require an exhaustive effort of every bone and muscle, to which she is unequal. The going-to-die feeling is quite common in these cases, and is frequently the cause of great alarm. It may be experienced either in daytime or night; on going to sleep or waking from sleep.

Should these symptoms and conditions continue for any length of time, and the general health be feeble, the heart and lungs will sympathize with the general debility. The patient will be troubled with attacks of palpitation of the heart and nervous, irregular action of that organ. The breathing will become irregular, and a sense of suffocation will be experienced. A cough, which at first may be purely nervous, but soon becomes more marked and serious, will be developed, and the patient will sink rapidly by acute consumption, or, more generally, by a slow but sure process of general wasting consumption.

Treatment for General Exhaustion.

This debilitation and general prostration suggests the treatment. It should consist in a general restoration of the lost forces of the system, both through hygienic influences and medication. A tepid bath in the morning, with a thorough rubbing of the skin and manipulation of the muscles, serves to equalize the circulation and stimulate the exhalation, thereby eliminating the poison from the blood. Free exercise in the open air, commensurate with the patient's strength but not to exhaustion, should be enjoined. The bowels should be regulated by proper articles of diet. The food should be rich and nutritious, consisting of cream or rich milk, to which may be added some lime-water ; if the milk should sour on the stomach, three parts milk to one part lime-water. Fats should be administered liberally in emulsions. Cod-liver oil is an excellent remedy, when it agrees with the stomach. Fat in the form of good butter may be taken frequently with other food.

Tonics, both vegetable and mineral, may be given internally. The preparations of iron will be found useful. They may be combined with some of the bitter tonics.

A very good combination:

Citrate of Iron, Three Drachms.
Quinine Sulphate, Thirty Grains.
Tr. of Nux Vomica, Three Drachms.
Water, Three Ounces.

Dissolve the iron in the water and the quinine in the

tincture of nux vomica and mix. Dose, teaspoonful three times daily.

In such grave diseases a competent physician should always be employed, as the disease is too serious in character for the patient to rely upon home treatment.

It must also be kept in mind that in the most favorable circumstances complete recovery often tries the patience severely. No woman need expect to be restored in a few days or weeks, even with the best of attention to hygiene and medical care. The laws of health may be neglected for years and passable health enjoyed. Little by little, and step by step the constitution is undermined ; but not until a general breaking down occurs, is the full extent of the mischief suspected. This serves to suggest the process of recuperation. That must be restored which was destroyed, and often in about the same way — little by little, step by step. Many people forget this. They are impatient and seize upon every gain made. They overestimate the progress in recovery and not infrequently relax their recuperative efforts far short of complete restoration. This is one great vexation to the medical attendant. When the patient is consciously helpless, no difficulty is experienced in having directions followed, but his utmost efforts to have the process continued after the patient has passed out of the worst phases, often are unavailing. The patient begins to feel well. She thinks she is well. She relaxes her medicine and hygienic regimen. In a short time a relapse follows, from which recovery is more difficult and more prolonged.

The Three Sisters.

THE MAIDEN.

General Remarks.

The romping, hoydenish maid of ten or a dozen summers, whose rosy cheeks and agile steps bespeak health and happiness, whose disheveled locks sets propriety at defiance, whose frank, ingenuous countenance tells of a pure heart, and whose simple, unaffected ways show guilelessness of the world's arts — such a maid has been admired in all ages. The unselfishness of her nature is apparent in all her movements. Untrammeled by the restrictions which later in life environ her, she joins freely and fearlessly in all the sports of youth. There is no sex in youthful pleasures and recreations. What is proper for the boy is proper for his sister. What is relished by the one is equally relished by the other.

This is the case where Nature has her way. Parents may erect barriers between the sports of their sons and daughters, and they may be trained to feel a difference. But naturally there is no more difference between the tastes, desires and inclinations of a boy and girl in the same family than there is between two boys or two girls. In nothing is there aught of reserve in the thoughts, words and the actions of the maid. She is an open,

frank, innocent child, free from conventionalities, happy in herself, and happy in her surroundings. To her, life is glorious, blessed. She is alive, and that is enough for her. She rejoices in the fullness of her being, and she drinks in all the beauties and delights of the beautiful world of which she is a habitant.

But a change comes over her life, at once strange, mysterious, all-pervading. Silently and irresistibly the forces of Nature within her are ripening for the great consummation of her being. A change insensibly creeps into her tastes and emotions. She becomes shy, reserved, listless. She does not understand it at all. She cannot apprehend the great changes that are going on within her, physically and psychically. She resents it. She endeavors to absorb herself in the matters that have hitherto been her delight, and she finds them tasteless, insipid, repulsive. A feeling of wonder takes possession of her, tinged with amazement and fear. She cannot realize where she is. The past seems fading away from her, and the future is only revealed in flitting, uncertain glances. She tries to hold on to the vanishing past, and yet is incited to look and reach forward. She is—

> "Standing with reluctant feet
> Where the brook and river meet,"

hesitating, trembling, uncertain whether to advance or recede.

If she have been wisely instructed by her mother, she knows something of the physiological changes that are taking place in her being. She knows that she is passing

from childhood into womanhood. She knows that this development will bring her into a sphere that is entirely separated and barred against all invasion of the other sex. She is prepared for something of this. But she is not prepared for the greater, more mysterious and more wonderful transformation that takes place in her thoughts and feelings. This is a great mystery which no mother, no teacher can explain.

The girl herself cannot analyze her feelings. She has a vague, indefinable conception of the transformation that is going on, but its causes are hidden from her. All her experiences are new. She moves about in her accustomed ways with the feeling that she is in unknown places. More frequently, the feeling is that she is another person than herself. Familiar haunts and employments have a strangeness that bewilders her. Some new machinery has been set at work within her soul, and she is appalled with wonder at the revelations it opens up to her. What once pleased her, now irritates or disgusts. What was once the keenest delight, has now no power to stir her purpose. What once attracted her, now appears dull and common-place. On the other hand, she begins to find attractions and interest in things that were once passed without her notice. She finds herself more sensitive. Her sympathies are more quickly touched, and they move her more profoundly. But with all these new experiences, there is a feeling of inharmony. Her whole being is out of joint, and she lays the blame on the objective world.

As the days lengthen into weeks and months and the

transformation proceeds farther, she becomes conscious of the birth of new hopes and desires. At first they are dim, and flitting. By and by they become more clearly defined and tangible, as well as more absorbing. Gradually and imperceptibly she relinquishes her hold upon her childhood and reaches forward with intense interest and longing to the fuller life of womanhood opening up before her. Literally and fully she "puts away childish things." Thereafter they have no claim upon her interest and affection. She begins to have the feelings of a woman. The characteristics, tastes, habits, occupations and desires of her sex take hold of her. She seeks the companionship of women, and feels interest in their conversation and pursuits. She comes into a new, nearer and more equable relation with her mother. She takes delight in her home, as she never did before. She cares less and less for out-door sports, and seeks the retirement of her home with pleasure.

One of the most marked changes which she experiences is the feeling with which she regards the opposite sex. The great mystery of sex is gradually revealed to her. Hitherto she had viewed her boy friends from the standpoint of companionship; now she regards them from the standpoint of sex. This change of feeling is most decided and most clearly defined. The maiden is fully conscious of it, and betrays her consciousness in her actions. She becomes timid and bashful in the presence of her boy-friends. She no longer permits the freedom of unrestrained romps with them, nor admits them into her confidences.

She is diffident and ill at ease in their presence. This is the time when girls troop together. They form intimate connections with each other, and interchange the most tender confidences. They are oppressed with mutual secrets, and are continually planning to be together more. They feel withdrawn, separated widely from the opposite sex, and have no great interest in it.

After a little time, this state passes away. The power of sex, first repellant, becomes all-powerfully attractive. The maiden begins to find her feelings glowing with admiration for her male companions. She no longer classes them in a body, but discriminates. Some she dislikes and some she admires. Some awaken a deeper feeling, which, when thoroughly aroused, completes the transformation from girlhood to womanhood.

Accomplishments.

No scheme of education however comprehensive, is complete which does not contemplate the acquirement of certain polished arts and accomplishments, the purpose of which is to render the possessor more pleasant and agreeable to others. An accumulation of bricks and lumber is not a house. The skill of the architect is laid under tribute, in order that beauty, symmetry and grace may be superadded to rare utility. It is not variety, but a commendable common-sense which leads men to adorn their houses with various ornaments, not really necessary to protection or comfort. There is a sense in the human mind that finds gratification in the beautiful and the orna-

mental. It is as much a factor of the soul as is the sense of taste or smell. Its gratification brings as much real, substantial enjoyment as the gratification of any other sense.

The same thing is observable in dress. Something more is demanded than that the material shall meet the ends of covering the body and protecting it from the inclemencies of the atmosphere. It must be of material that satisfies the sense of taste and harmony of color and quality, and be fashioned and fitted so as to display the contour of the body to the best possible advantage, and allow the freest and most graceful motion of the different parts. No one is so utterly void of the sense of beauty and fitness as to deny the advisability of calling in the aid of art in clothing Nature. The inclination to do so everywhere exists. It is an innate and universal instinct of humanity to desire to appear well. It shows itself in the uncouth and fantastic adornments of the lowest class of the uncivilized as strongly as among the possessors of the highest culture and enlightenment. The rings and bells and feathers with which the rude inhabitant of Southern Africa adorns himself, are, with the fashionable garb of the American or European, an evidence of the possession of a love for the beautiful and the artistic, and a confession that in yielding to the influence of this emotion he finds real pleasure and gratification.

Among natives of higher civilization and refinement the pleasures of taste expand beyond material adornment. They find their highest gratification in the cultured graces

Fairest Flower of All.

of the mind. No one can find enjoyment of life alone and apart from his fellows. No one can live among his fellows and either give or receive pleasure if he have not added to substantial utility much that is purely ornamental. Social life holds nothing that is desirable to him who cannot contribute something to the sum total of cultured accomplishments. It is a weariness and oppression to him, and he is a burden to it.

What is true of all is emphatically true of the education of the young woman. Her province in society is to please and be pleased. Her broad sphere in the world is to give grace, beauty, harmony and brightness to life. It is not all of woman's sphere to ornament and please; but these desirable features of social existence depend so very largely upon her that they constitute no insignificant part of her mission. Her own personal comfort and success in society are conditioned, to a very great extent, on the possession and exercise of certain graces of body and mind. The acquirement of these, therefore, becomes an essential and very important part of her education.

A certain writer on this subject says: "A young woman may excel in speaking French and Italian, may repeat passage after passage from popular authors, may play like an expert and sing like a siren, may dance with the grace of Sempronia, and decorate her home with her own drawings, and yet be very badly educated." This is true enough, but it only proves that her preceptors erred in placing an undue estimate upon these accomplishments. It is as great a mistake to overestimate these accomplish-

ments as it is to underestimate them; the result is as deplorable, though not more so, when all the time and attention is given to learning the arts which please and captivate, as when these are entirely neglected. The architect builds a house first, with foundation, walls and roof, calculated to protect the inmates and assure material comfort. He adds the adornments afterward. An education must comprise all the factors of substantial utility as the foundation and framework. The body must, first and foremost, be educated to be strong and healthy; it should have grace and symmetry developed along with these, not as constituting the absolutely essential condition, but as extremely desirable. The mind must be stored with all useful information and trained to right ways of thinking; but it is well that it be educated in those qualities which appreciate the beauties of harmony and color and form and poesy.

It is not all of life — and very far from being all of woman's life — to eat, sleep and be clothed decently and comfortably. It is not all of life to be able to pass through the world seeing only its fertile soil, its magnificent building stone, its commercial timbers, its useful carboniferous deposits, and its various facilities for agriculture, commerce, navigation and manufacture. The soul has a capacity and yearning for the beauties and harmonies of color and sound and taste and smell. Nature teems with these beauties and harmonies. The soul that is not educated to see, appreciate and enjoy these delights, is only half developed. These appetites and

cravings were not implanted in the soul to be neglected. The body had never been constructed with the possibility of graceful movement, the hand to skillful touch and manipulation, the ear to detect the melody and measure harmony, the eye to discriminate form and color, if these possibilities were to be allowed to remain dormant. The soul is not gifted with the capacity to enjoy mental and moral beauties that it may never be called upon to exercise itself in their contemplation. The utilitarian theory of education falls far below the manifest teachings of natural endowments. Talents and capacities were bestowed that they be developed, both for the benefit of the possessor and for that of others with whom his life is or may be associated.

The nature and extent of the polite accomplishments which it is desirable for a young woman to attain, depend very largely upon her station in life, and the prospects which the future have in store for her. But, no matter who or what she may be, or how circumstanced socially, it will always be to her advantage, subjectively and objectively, to acquire, to some degree, the grace and culture which a practical acquaintance with music, art, dancing, literature, etc., bestow. It is profitable for two reasons: One is that the possession of these accomplishments brings its own reward. The body is stronger, more comely, more healthful when it is trained to graceful movement and position. The mind grasps a larger scope and quaffs deeper pleasures when its faculties of beauty and harmony have been educated and trained. The other reason is that

a woman thus cultured, is a more useful, engaging and ornamental member of society. She helps others. She pleases her friends and companions better, rises to a higher plane in society, and opens a brighter future for herself. She will be a better companion, friend, counsellor and helper to her husband. She will make her home brighter, happier and more desirable. She will bind her husband and children so closely to her and to the home of which she is the light, that the temptations and allurements of the world will fall helpless and harmless. She will be able to train her sons into nobler men and her daughters into purer and better women if she possess these accomplishments than if she lack them.

The education of young women in the polite arts is, unhappily, too much of a formality. A prescribed course is followed by all with little or no regard to taste or capacity. It is altogether different in the education of young men, and rightly, too. It is proper that every young women should pass through a certain training to give her grace, skill and appreciation. It is a mistake that, after she may have developed a tendency to pursue some particular art, she should be compelled to give time and labor for another for which she has no aptitude whatever. In society, as in business, specialties count. If a gift for one thing be discovered, it is advisable that it be cultivated. Out of a score of girls who follow the same musical training, one perhaps may become a musician. This does not argue defective training for the others, or inattention on their part ; it may only prove

that they had no musical taste and aptitude. Out of the nineteen a good proportion might have developed into fine artists or teachers of letters. Full, rounded developments are not always secured most satisfactorily by similar training. Very often such training serves to keep the subject from ever becoming anything. The whole nature is dwarfed and stunted. On the contrary, it not infrequently happens that a pupil who showed no capacity whatever for a certain department of education, has, under the sympathetic stimulus of an enlarged development in another direction, become quite proficient in that which was once despaired of. The philosophy of this seems to be that the soul must be probed to its very depths before the best that is in it can be evolved; when so probed, it will sometimes develop capacities that were undreamed of by its possessor.

The acquirement of the arts and graces of polite society is to be desired by every young woman. No such accomplishment is wasted. In the after years of her life she may be so situated that she cannot practice the grace she has learned; but its impression is on her soul and in her life, showing itself in a thousand intangible ways. Her home will show her taste, and skill, though it may be difficult for her to see exactly how. The veteran soldier walks with military precision, and the sailor with a swagger, long years after each has ceased his vocation. The discipline of training established the habit. The poet sees beauty even while he may be engaged in the most prosaic duties.

So the woman, who is trained to be polite, graceful and entertaining, will continue to exhibit these graces in all her after life. Her maiden accomplishments will bear fruitage in her matronly home life and duties.

When to Make Engagements.

The social customs of America are wholly different from those of Europe and the rest of the world. With us, girls are allowed all freedom in courtship. The responsibility of deciding on a husband is generally left to the girl entirely, with such counsel as her parents may choose to give her, or she may seek from them and others. When a man and woman of marriageable age seek each other's society, with a view to marriage, it is expected that, in due time, the subject of marriage will be named between them. If its prospect is agreeable to both, an engagement follows. This engagement is made between the parties most interested, and this is ordinarily considered to be enough to make it binding, though courtesy and a due deference demand that the parents of the bride shall be asked to sanction it.

The engagement is an important step in the courtship. It should never be taken hastily, and when once made, should be treated sacredly. The honesty of both man and woman is pledged in the solemn covenant. It should, and ordinarily does, settle the question of marriage. After troth is plighted, the time of marriage is a mere matter of convenience. The material condition of the contracting parties decides how long the engagement shall continue.

No man has the moral or social right to ask a woman to marry him until he is in a position to seriously consider the fulfillment of his promise, and no woman should promise to marry a man when the conditions are such that she cannot think of marriage for years.

An engagement should not be made, then, until both parties are fully satisfied with each other. It has been said that the prime purpose of courtship is to determine the mutual suitableness of the persons for a life companionship. Until this decision have been made in the minds of each, no binding of the one to the other should be thought of. The length of time from the beginning of the courtship until an engagement may be proper depends pretty largely on circumstances. With some persons, a few weeks' intercourse is sufficient to thoroughly understand and judge each other. If marriage be practicable, there is no good reason why an engagement should not be made and preparations for the marriage begun at once.

In the case of persons who have long known each other — who have grown up in the same community — there is little to be learned beyond compatibility of temper, taste and disposition, and the development of affection. In the case of persons who have been strangers, longer time is to be given. Everything is to be learned. The maiden, especially, knows nothing of her suitor, save what her own judgment reads in her intercourse with him. And as few men reveal their whole nature and their true disposition to persons of the opposite sex, the maiden demands more time before being called upon to settle the

momentous question. She ought to see him in various circumstances, and note the influence upon his disposition, in order to fairly judge him. She has a right to know his previous history and the physiological history of his family. She must be sure that she loves the man, and that her love rests upon proper foundations to endure all the trials of marital experience. No such love can be genuine and, therefore, abiding, which has ignorance for a prime factor. Blind love is nothing more than sexual passion. True love is intelligent, resting upon a knowledge of the object, and a profound confidence in and respect for the character of that object. There is a sort of animal magnetism interchanged between persons of the opposite sex, when brought into continuous contiguity. This is not love. It is, at best, no more than passion. There can be no genuine love without this passion, but there may be absorbing passion without love.

Long and Short Engagements.

A reasonable time must elapse after an engagement is entered into before the marriage should take place. There are sound social, economical and physiological reasons why this should neither be abridged too much nor extended too long. Some time is required for the maiden to make preparations for beginning her new life. It is a custom, and a wise one, that she should provide herself with a wardrobe sufficient to last her a year or more after marriage. The new wife will have enough to engage her attention without the toil and worry of providing herself

with apparel. Custom is inexorable in decreeing it an impropriety to anticipate the engagement by any preparations for marriage. Consequently, all such preparations must be made after the engagement.

It sometimes is deemed wise to break an engagement. While this is to be discouraged, yet there may arise cases in which it is manifestly for the good of all concerned. The post-engagement period of courtship brings the parties into a new, different and more intimate relationship. Much of the reserve that existed between them naturally and properly is laid aside. They feel that they belong to each other. They are bound to each other in a solemn engagement, and their relations are only one step removed from those of marriage itself.

It is not surprising that, under this fuller and freer intercourse, especially when the motive of insincerity is largely taken away, that each should become more fully cognizant of the character of the other. This is the more likely to be the case when the engagement has been hastily made, when the parties are young, or when the ante-engagement courtship has been a sort of half-waking dream. Now, while it is true that an engagement to marry is a very sacred obligation, marriage is still more sacred. If it should be discovered during the engagement that the parties had not understood each other, or were manifestly unsuited to each other, it is better for both that the marriage should not take place. If wrong be done in breaking the engagement, then a greater wrong would be done in fulfilling it. If a mistake be committed, matters are not bettered by committing another and graver one.

This constitutes another reason for allowing some time to the engagement. Its place in courtship might well be called the verifying period, in which the person's conclusions are to be proved, and convictions firmly riveted. This consideration in itself would urge no definite prolongation of the engagement. It depends entirely on the state of knowledge and conviction at the time the engagement was made.

There are physiological reasons against a long engagement. The personal relations between the persons is very intimate. If they live near each other, and are consequently much in each other's society, there is great nervous excitement and exhaustion of nerve-power, however sedately they may comport themselves. Most Americans are nervous, excitable and passionate, and the strain upon such natures is great. It not infrequently leads to such a debilitated condition of the system that disease is superinduced. Contiguity in the relationship that exists may lead to serious derangement of the procreative organs.

For the reasons given above, it is evident that sufficient time should elapse — perhaps two or three months — to allow the prospective bride to prepare herself, and not more than a year or fifteen months, lest physiological ills be incurred.

Love at First Sight.

From what has already been said of the nature of true, lasting affection, the conclusion must be that it is a growth, a development. It begins with attraction, leads to inter-

est, expands into respect, deepens into tenderness, and rushes to passionate desire. This is the rule. But, like all rules, there are exceptions, or, at least, alleged exceptions. Cases are known to almost every one of persons who were irresistibly drawn to each other at their first meeting ; a few minutes or hours so deepened the impression each had made upon the other that all the characteristics of genuine affection were developed. Fiction and romance have abounded in cases of this sort, and it must be conceded that real life has not been without authentic instances.

Such exceptions are inexplicable on physiological or psychological grounds. There are eccentricities and anomalies in the physical world, and in the metaphysical as well. Why should there not be in the psychical ? In the former cases, the explanation is that they are exceptions, abnormal conditions, and are essentially *sui generis*. Nothing better than this can be said with regard to the cases under discussion. The general rule of the generation, development and consummation of sexual love can be given with considerable precision ; when an exception is found which digresses widely from the general rule of experience and observation, it must be treated as a rarity.

It will be sufficient, then, to admit that there are cases of genuine love at the first encounter ; that persons at the first meeting have exerted such a marked influence upon each other, that each involuntarily thought and desired a more intimate relation, and was irresistibly attracted. It

may be said that no variation from the general directions for courtship and engagement should be made in such cases. Indeed, there is all the greater need for careful and prudent discrimination during courtship. A deep impression is not love. An irresistible fascination is not love. A passionate yearning may not be love. Careful introspection should be made, and analysis of the emotions, so that no mistake shall be made.

Love — What Is It?

Love is the most common thing on earth ; and yet it is one of the profoundest mysteries. The source from which it springs, the means by which it is stimulated, the ways by which it travels, have never been discovered, and cannot be determined. It is at one and the same time the simplest and most complex passion known to animated creation. It excites to the noblest deeds of heroism, self-abnegation and devotion ; it is the direct agent in leading to the basest selfishness, cruelty and deceit. It makes an angel of one, and a devil of another. It brings the sweetest, purest and profoundest bliss ; and it is the cause of the bitterest, cruelest and most withering sorrow.

In its truest sense, love is the light and majesty of life. It is the ultimate principle to which all things must be resolved. Take it away, and the world becomes a barren waste. Banish this principle, and there is only a world of monuments, each standing isolated, gloomy and crumbling. It is an army of gravestones without a chaplet ; a shrubless plain without a leaf of green to relieve the

insipidity and monotonous uniformity that everywhere extends. Things base and cruel, creeping and obscure, withered and bloodless, alone could spring from such a soil.

Love is a principle that must look beyond and above the world for its origin, inspiration and life. Refining and elevating in its character, it expels all that is sordid and base. It bids to great deeds, noble thoughts. It is the philosopher's stone which transmutes common clay into the purest gold. It illumines the darkest pathway. It makes home happy and memory blissful. It blends hearts together in inseparable unity. It is the very sun of life — largest and most beautiful in the morning and evening, strongest and steadiest at the noontime. Without it, the soul has no central, living force, and life is worse than death.

The ancient Greeks represented love under a two-fold aspect; there was the love for the good and beautiful, the excellent or desirable in the abstract; the other form, in addition to these qualities, included the love of the sexes, one for the other. The Greek word *eros* meant passion, desire, affection, or kindness, while the word *agapæ* signified love, friendship, affection, charity, and the love of God to man.

Moral love is what will most claim our attention. This implies that affection which persons of different sexes feel toward each other. Upon analysis, we find it to consist of ideas attached to mind and in part to matter. Love is pure. It is not what the sensualist feels, and the

voluptuary does not know the meaning of the word. The vicious know it not. These follow but a vain shadow, a low, vile passion, not the ennobling, sublimating, soul-refining delights, known only to the virtuous, as attached to the idea comprehended in the word love.

For instance, two men, different in character and pursuits, meet a young lady at a social party. She has arrived at blooming seventeen. Her form is perfect; her lips are like rubies; her teeth like ivory; her eye like the gazelle's; her countenance angelic; in her is realized the *beau ideal* of poetic beauty. As she moves in the gay circle of the dance, her whole deportment combines all that is agile with all that is graceful; as the wavy curls flow down her fair neck, the eye rests for a moment on the rotundity of figure, displayed in her heaving breast. Two individuals thus view her; the one from the gambling table and the haunts of vice and debauchery; the other from an unpolluted home, the abode of a loving mother and an affectionate sister. The two see the girl at the same moment, and she inspires the one with passion, the other with love.

They both gaze on her, and while one would plot how to rob her of the pearl of virtue, and gratify a transitory passion by sacrificing her purity and happiness to his ungovernable lust, the other is inspired by a heavenly sentiment. He grows deathly pale, his lips quiver, his voice trembles, and, filled with inexpressible tenderness and purest emotion, he views her as the fair star of his destiny, the beacon-light of his future; and, studying her

interest and felicity no less than his own, he desires to devote his life to the pleasing task of making her happy; and that is the holy state of matrimony. This is love, pure and undefiled.

In like manner a tender lady sees a man who is the object of her esteem. His comely proportions, his exalted character, his loving heart, his noble disposition, all tend to impress her favorably and, scarcely known to herself, she thinks of him when he is absent, blushes in his presence, betrays some little tender emotion and already her heart is his own. She loves — thrilling and delightful emotion in the pure heart of a woman — for woman's heart is kind and is not made of rock; on the contrary, it is more like wax, pliable and easily impressed.

> "What thing is love, which naught can counter-veil,
> Naught save itself, even such a thing is love;
> And worldly wealth in worth as far doth fail,
> As lowest earth doth yield to heaven above.
> Divine is love, and scorneth worldly pen,
> And can be bought with nothing but itself."

There is thus in the sexes an adaption to one another. Each without the other is imperfect. The coarseness of man, his hardness and asperity, are refined, softened and smoothed by the gentle influence of woman. They have a mutual attraction for each other, like the opposite poles of a powerful magnet. Woman may be represented as the negative pole. She is passive, as it were. The motive and power must come from man. Thus man and woman but fulfill their destiny when they meet and unite for life.

Moral love in man has the same principle as physical love among animals. It is an intangible something in the being which attracts another. They are irresistibly drawn together. They are absorbed in each other. Individual identity is lost in the blending. They are bound by chains that cannot be severed. It is the most blissful bondage. Each absorbed in the other, is forgetful of self.

Neither thinks of self as disassociated from the other. It is an involuntary passion. It can neither be bidden to arise nor to depart at will. It is directed by no variable element and is bound by no rules. A word, a look, a motion may call it into being, and eternity cannot stifle it.

Courtship.

Courtship is the mating of kindred souls. It is one of the sweetest, most delightsome periods of life. The element of uncertainty gives a zest to the quest. The taste of the profound joys of mutual love sweetens every hour. Anticipation excites eagerness, while new discoveries of character constantly revealed lends a most absorbing interest. Life is a poem, the earth a paradise of roses, the heavens a galaxy of diadems. All the senses are absorbed in blissful lethargy. The most prosaic utterances glitter with rare beauty. The most common-place scenes are invested with romantic interest. The air is fragrant with a thousand delicious odors. The past fades away and the future holds nothing but what is desirable.

This is a period and pursuit about which the sweetest poetry and the silliest prose have been written. A time

THE ENGAGEMENT RING.

that demands the exercise of the calmest reason, it is a time when reason is held in abeyance to passion. A time which demands the most profound thoughtfulness, it is a time in which no thought is exercised. A time of the gravest importance, it is a time that is dreamed away in careless enjoyment. A time that calls for the clearest self-vigilance, it is a time in which self is permitted to float about at the will of the senses. A time that should call for the most careful scrutiny and equable judgment, it is the time in which the eyes are holden and the judgment swayed by the emotions.

There are two great reasons which stamp the period of courtship second to no other era of life. One is that it calls for the exercise of the highest discrimination, resolution and judgment. A young man and a young woman are attracted to each other. The point of attraction may be trifling, insignificant, intangible. Neither, perhaps, can tell exactly what in the other interests and attracts. This attraction leads to association. Association ripens into friendship. Friendship blossoms into love. Love finds its fruition in marriage. Between the first and last terms of this series, lies the period of courtship. What is its purpose? Manifestly, to gain a more intimate knowledge of each other's character, disposition, temperament, habits, etc. For what? To decide whether each is adapted to the other, and whether or not an intimate, indissoluble union may be desirable.

The essential purpose of courtship, then, is the study of character. To do this creditably demands the exercise

of the intellectual faculties to the highest degree. It is not a time to allow the senses to become so steeped in the bliss of the present that discernment and discrimination are blinded. Love is blind. But courtship is not love. It should not be blind. It is the development, the cultivation of love. But at the same time, it is the determining whether or not it be desirable to have love cultivated and brought to a ripened fruition. There can be no true marriage which does not rest upon love. But there can be no true love which does not rest upon a basis of respect. There can be no intelligent respect which looks to any qualities in the object respected which are outside real character. A man may be attracted by a dainty habit, bewitched by a rougish eye, charmed by a graceful form and carriage, delighted by a witty repartee; but he cannot respect, in any proper use of the term, a handsome dress, a brilliant eye, a perfect movement, a ready tongue. He cannot love what is not preceded by a profound respect.

Passion is not love. Admiration, pleasure, enjoyment, delirium—these are not all the ingredients of deep and abiding affection. It goes beyond and beneath all these emotions. It finds no secure resting place till it reaches, analyses, synthesizes, and weighs the character of the object of passion. These processes are to be pursued during the courting time. It is, then, not alone a time of cooing and wooing, but more essentially a time of deep and careful study. Everything in the future depends upon the thoroughness, the impartiality and definiteness of that study. And this suggests the other reason referred to.

The happiness of marriage is conditional on the manner in which courtship is conducted. Marriage does not necessarily imply happiness. Courtship need not necessarily, in every instance, lead to marriage. On the contrary, marriage has often proved the bitterest sorrow. There are some cases, in which the cause of the unhappiness did not exist at the time of marriage, but they are exceedingly rare. There are very few cases of marital unhappiness that are not the direct result of ignorance. The wife did not know the husband, or the husband did not know the wife, when this relation was established. That element of character which now, in its operations in life, breeds the unhappiness, was either unknown or unweighed when the decision of marriage was made. The same disposition which leads to a feeling of repulsion now, would have produced the same effect then had the disturbing cause been known and observed. The same inability to love now, because of certain traits of character or habits of life, existed before marriage, and would have asserted itself had not the eyes been too blinded to perceive the existence of these offensive traits, and the mind too full to trace them to their legitimate fruitage.

It is doubtless true that a husband or wife often develop, after marriage, the characteristics which destroy domestic peace and undermine marital happiness. But it is also true, that it is development, not creation. Few men or women at marriageable age, have not reached maturity. They are then what they always will be. Certain traits may be developed to legitimate sequences; but the

principle existed in the character all the time. The thief at thirty had the instincts of a thief at twenty, though he may never have stolen anything. If the courtship had been conducted on the rational basis which its importance demands, the character of each would have been fully known before marriage. It is, then, a mere matter of judgment whether marriage shall be contracted or not.

It may be conceded that the mutual study of character during the period of courtship is difficult. But this is no reason why it should be abandoned. There are two great reasons why this study is difficult; one is because of a misconception of the purpose of courtship; the other is because of the absence of candor and honesty on the part of both. Very many courtships are begun and conducted for the sole purpose of captivating and securing the person courted. The young man starts to woo and to win the maiden whose charms have attracted him. He thinks of nothing else, aims at nothing else. The idea of studying her to see if she be a suitable life-companion for him never enters his mind. The same is true of the maiden in many cases. Her aim is to lead the wooing into a declaration of love and a proposition of marriage.

Thus inspired, each goes to work to conquer. Each treats the other dishonestly. They are not true to themselves in the presence of each other. They put on false characters. They practice every possible art of deception for the concealment of their real character. They assume qualities they do not possess. They study to appear better than they are, to be what each discovers the other

would like them to be. They seek by the adornments of dress, by the blandishments of manners, by the allurements of smiles and honeyed words, by the fascinations of pleasure and scenes of excitement, to add unreal, unpossessed charms to their persons and characters. They study to appear in each other's eyes as possessing no defects, no blemishes, no flaws.

They succeed in deceiving each other. They marry under this delusion, and in a short time it will pass away. There is no longer any need for concealment and deception. The end sought has been attained. Each comes to know the other. Each finds the other to be very different from what was believed, perhaps wholly unlike the object that won love. Such an awakening is dreadful. Is it to be wondered at that an unhappy marriage follows? The wonder would be if it did not.

In many cases the inevitable and unalterable is accepted philosophically. Each accepts the new being marriage has discovered, and genuine love grows up between them. In too many cases this is not possible to be done, and hence, the many unhappy marriages. Many of these could have been averted had the courtship been conducted honestly and properly. It is better not to marry, than to marry wretchedness and misery.

The very importance of courtship suggests that it be not allowed to commence too early in life. It embraces interests that demand the matured mind to decide. Courtship for the mere sake of courtship — that begins and ends with courtship — is not to be taken into account. There

is no such thing. Such conduct has a different name altogether. It is flirting, and demands sentence of condemnation by this name.

The first suggestion is not to think of this all-important affair too soon, nor suppose it necessary that a miss of sixteen or seventeen should receive special attention. The period of courtship, like all other periods of woman's history, is limited to a certain number of years, and, like the hand on the dial of the clock, makes its circuit, no matter at what number the pendulum is put in motion. So a woman will have her years of love or match-making, no matter whether she begins at sixteen or twenty. Not unfrequently it is said of a woman of twenty: "I know she is twenty-five, because she has been having beaux for five or six years," forgetting she regarded herself as a woman entering society and receiving company at fifteen.

Do not court the subject, nor permit your imagination to be forever dwelling on it. Rather drive it from you than draw it near. Ever repress that visionary and romantic turn of mind which looks upon the whole space that lies between you and the hymeneal altar as a dreary waste ; all beyond, a paradise. In cases innumerable, the very opposite is true, and the exchange of a father's for a husband's home has been like the departure of Eve from the Garden of Eden to a wide, uncultivated wilderness.

A Greek fable says that some stags, whose knees were clogged with frozen snow upon the mountains, came down into the brooks in the valleys, hoping to thaw their joints

in the waters of the stream, but the frost bound them fast in the ice till the herdsmen took them in their stronger snare. So it is with many young persons; finding many inconveniences in single life, they descend into the valley of marriage, only to refresh their trouble and multiply their inconveniences. They enter fetters, and are bound to sorrow by the cords of man's peevishness.

Take extreme care of hasty entanglements; neither give nor receive particular attentions, until the matter have been well weighed. Rather keep your affections shut up in your own breast, until reason and judgment command their bestowal, that your choice may be one of prudence and not of haste. A neglect of this point, until you have fallen into the snare of an imaginary love, weakens your means of defense, compromises your judgment, and makes you an easy pray to the craftiness of man.

As it is better for woman to defer marriage until between twenty-two and twenty-five, it follows that courtship ought not to be begun earlier than twenty. Her physical nature is then well developed, her mind matured; she is able to behold and appreciate the realities of life, and if she bear children will impart to them the inheritance of maturity. Now, since it is easier to demonstrate upon purely moral and physiological principles, the disadvantages and improprieties of long engagements, it is but fair to conclude that courtship should not commence within the limits of the "teens."

Content yourself and enjoy the blessed privileges of a girl in the domicile of your mother. Drink the sweets of

a mother's care, protection and education, that you may be fully armed and equipped and made strong for the great battle of life. Be sure that your married experiences will come soon enough. Marriage is for matured women, not for girls. It is the completed life, but it should not encroach on the domains of youth and happy maidenhood.

How to Select a Husband.

When a young woman arrives at the age when it is proper for her to contemplate marriage, three queries are said to present themselves to her mind: When shall I marry? Who will marry me? Shall I marry at all? To the first of these questions attention is now to be directed, with the hope that a few words of advice may enable a young woman to decide the question more in harmony with the laws of physical being than, unaided, she could do. A mistake made here is a certain prelude to a life of unhappiness, positive or negative, if it compel her to travel the voyage of life in company with an ill-suited, uncongenial companion who is not only her husband, but the father of her children.

Few questions meet a young woman that are more important to her than this one of choosing a life companion. The relation of husband and wife is so intimate and complicated that its happy adjustment outranks all social considerations, and stands next to health in securing happiness and general well-being. There are certain conditions, well-established by experience, which

should exist, in order to insure the largest measure of happiness in conjugal relations. Some of these are physical and others social and moral.

Consanguinity.

A due regard must be given to the degree of relationship by blood subsisting between the parties contemplating marriage. How closely related persons may be to marry safely, is an old subject, involving long and interesting discussions. Many of the States have gone so far as to enact statutes forbidding marriage between persons who sustain to each other the relation of first cousins. Extensively gathered and carefully compiled statistics are shown to establish the fact that the progeny of this degree of relationship are frequently of feeble constitution and susceptible to inherited tendencies. Dr. J. G. Spurgheim says that "scarcely one among the royal families of Europe, who have married in and in for generations, can write a page of consecutive sound sense on any scientific, literary or moral subject." Dr. Charles Caldwell says: "One cause of human deterioration is family marriages. It has almost extinguished most of the royal families of Europe, though at first they were the notables of the land for physical strength and for force of mind and character." Dr. Buxton says that "from ten to twelve per cent. of the deaf mutes are the children of cousins. In one hundred and seventy consanguinous marriages, were two hundred and sixty-nine deaf or dumb children, and seven in one

family." Many similar instances might be adduced from equally high authority, illustrating the evil results of persons marrying that are too nearly of the same blood.

The author can say that his own observation does not coincide with the testimony given above. Intimate knowledge of a great many marriages between first cousins fails to show anything like this ratio of serious consequences. While it is always better not to marry within such close degrees of relationship as this, yet unqualified condemnation of it cannot be allowed. Cousins who are married happily ought not to be made miserable for life in dread of having defective or deficient offspring. There is far more menace in taint of blood than in the mere relationship. Where this herditary predisposition exists, whether it be in families so related or in any other family, it is likely to develop in the children.

A German author has urged the propriety of consanguineous unions where the family has traits of mental or physical excellence, as a means of further developing these qualities. Sterility is urged as an objection to the marriage of cousins, the assertion being made that such unions are less productive than others. Statistics prove, however, that in the average unions one in eight is barren, while between cousins only one in ten. Another objection is that early deaths are more common. But statistical tables show that whereas fifteen per cent. is the general death average, only twelve per cent. is the rate in families whose parents are cousins. This general truth,

however, it is well to keep in mind, namely, that few families are wholly free from some lurking predisposition to serious mental or physical disorder ; and it is not wise, as a rule, to risk the development of this by too oft repeated unions. Stock-breeders who have had large experience in raising the lower animals have established the rule that crossing nearly-related individuals a certain number of times produces the best specimens, but, if carried beyond this, it leads to degeneracy and sterility.

Constitution.

No woman should seriously consider marriage without including one of its essential ends, namely, the rearing of a family. Considering this, she will also think how greatly her own happiness will be conserved, her burdens lightened and averted, if her children shall be sound in body and mind. The man she marries will be the father of her children. He will bequeath to them, as has been shown elsewhere in this book, the constitution which he himself possesses. Though she herself may enjoy perfect health and a faultless constitution, she cannot expect that her children will be equally endowed if their father have a shattered constitution. It becomes, therefore, a matter of serious import to her, if not a duty to herself and the children she may bear, to study the health of the man she elects to marry. It is not a cold business calculation, repugnant to the highest social and moral sentiments that obtain in accepting a husband ; on the contrary, it is only a justifiable prudence and commendable common sense.

There is but one life to lead and one family to rear. This life should be made as full of light and happiness, as free from care and sorrow, as it is possible to make it, and this family should possess the highest physical and mental endowments which it is possible for the mother to bestow. For these reasons, she is only consulting her own best interests when she elects to join her life with one whose physical constitution is free from blemish or defect. The constitution of the possible husband can be ascertained. It is partly a matter of record in the physical character of his family. It will be no impropriety to scrutinize this family through at least the previous generation. The habits of the husband should be known because of their effects upon his physical constitution. If he have lived recklessly for any considerable time with regard to the laws of health, there certainly must be an impaired constitution, though this may not yet evidence itself in the health. Continued disobedience to the principles and condition of health will undermine any constitution, however robust. If the man have been long dissipated, the general constitution is affected deleteriously. He may now be thoroughly reformed and be leading an upright and honorable life; in such condition there are no social nor moral objections to marriage, but there are causes for grave fears from a physiological point of view.

It can be repeated that the young woman must consider that, in choosing a husband, she is conditioning the physical interests of her children. She may be willing, so far as she herself is concerned, to mate with a physical

wreck; but she has no moral right to curse her children with the heritage which such a wreck will give. She owes a duty to these unborn children which she cannot shirk nor evade. She owes a duty to herself as a member of society to bless it with good members.

Other Qualities.

There are other natural qualities which a woman should scrutinize in the man she intends to marry. Among these are health, race, temperament, education, habits, etc. In comparison with the two that have been named — consanguinity and constitution — they are minor considerations. Considered alone, out of relation, they are by no means unimportant.

A woman ought not to marry a man in poor health. No man in that situation ought to ask a woman to marry him. If the derangement is only temporary, they both can well afford to wait. If it be chronic, it is likely the result of constitutional defect, and what was said in the foregoing will apply. There are several good reasons why this should not be done. One is that no man is at his best when out of health. He cannot give that attention to his person which is needed. The first months of marriage have an important bearing on the feelings which husband and wife are likely to cherish toward each other for a long time afterwards, perhaps through life.

A man in ill-health is not so patient, so kind, so considerate of others, so forbearing, as he is at other times. It has already been said that there is ordinarily a revulsion

in the feelings of a man toward his wife in the first few days. In this condition there is a demand for the exercise of the very virtues named above which he is least able to exhibit. He is likely to be cross, impatient, selfish, thoughtless, uncompanionable. Seeing him thus, the newly-made wife, herself in need of the tenderest care and solicitude, is almost irresistibly impelled to a feeling of repugnance, which in her excited condition, is likely to tend to positive disgust. This is a sad state in which to begin conjugal life. A barrier may be erected between husband and wife that it will require years to remove.

Still another reason exists in the fact that conception frequently follows the first approaches of the newly married couple. It is not desirable from any point of view that a husband should become a father when his physical condition is in a debilitated condition. For her sake, for his sake, for mutual relation's sake, for her children's sake, a woman should not marry a man in ill health.

Women generally marry men who are of the same race as themselves. There are many social reasons why this is best. There are race characteristics which play an important place in determining the comfort, pleasure and happiness of marital life. The union of two persons of different nationality is likely to bring into contact peculiarities that are antagonistic, and domestic friction certainly ensues. It need not be so, but it generally is so.

But there are no physiological objections, to the intermarriage of different races. On the contrary, it is fre-

quently of the greatest advantage. It often leads to a keener intellectual and a sounder physical development in the children by the intermingling of diverse races. This has been shown in a good many instances in the crossing of races very much diverse, as when an Anglo-Saxon or Frenchman has allied himself to an Indian or African woman. Such extreme cases, however, are not to be considered here. But it is quite common for marriages to occur between the different European races, with marked benefit, intellectually and physically. It is seen in a large scale in the admixture of whole nations in Europe where the amalgamated succession was very much superior to either of the progenitors.

Temperament needs to be considered. The best general rule to lay down is, that persons too nearly allied in temperament ought not to marry. Such union does not in any degree militate against the mutual affection and happiness, but it has a tendency to develop constitutional weakness in the children. It is not necessary to choose opposite temperaments, though this is certainly advantageous, but only to avoid too great similarity.

It seldom occurs that a woman finds the highest happiness in allying herself to a man who is her intellectual inferior, or whose education is inferior to hers. It would be the best thing of course, if the contracting parties could stand on an equality in these regards. When this is not the case, the balance is best secured when the husband is the superior. He is the natural as well as the legal head of the house. Women naturally look up, not down,

to their husbands. When the later condition exists, it is almost certain to tend to domestic infelicity. Just in proportion to the ignorance and inferiority of the man, so will be the disrespect of the wife for him, and so, also, will be his own impatience, irritability and intractability.

No woman is justified in joining her pure life to that of a man of loose or vicious habits. It is not to be expected that a man will be found who is perfect, or absolutely pure and clean. Few men are that. But there are certain habits which make any man unfit to mate with a pure woman. A great many young women are seized with the semi-romantic notion that they can marry depraved men and reform them. The experiment succeeds about once in a thousand times, and in a good many of these exceptions the probabilities are that the man would have reformed anyhow

The man who is such a slave to his passions and appetites that he will not abandon these habits for his own sake, or for that of the girl he loves, will not do it for his wife's sake. It depends, indeed, very largely on the impelling motive to the objectionable habit. Men are addicted to bad habits from various causes. Sometimes it is from an excess of spirits; again from mere idle curiosity; again from depraved tastes or from innate lack of principle. If the habits result from the former causes, they will yield to changed conditions and refining influences; if from the latter, nothing short of a new creation will avail much. A little wise discernment will discover the impelling motive to the woman, and her influence during courtship will discover to her what she is likely to accomplish as a wife.

Qualifications of a Husband.

The qualifications that have been considered refer to natural and physical conditions. There are certain other traits in a husband which the young woman ought to consider. These may be termed, in contradistinction to the others, social or moral qualities, as they concern more directly social and moral ends in married life.

Filial Love.

The first qualification of a good husband is love of his mother. The young man whose heart swells not with filial pride at the very name of her who in pain and sorrow brought him into existence, whose watchful care exhausted itself through all those days and years of perilous infancy and childhood, and whose soul is wrapped up in his health, happiness and prosperity, will not make a kind and loving husband.

He should not only love his mother, but the whole household should feel the influence of his refining presence. His sisters should be objects of his special regard, watchfulness and care. The influence of home becomes so stamped upon the life, character and disposition of a boy, that to a greater or less extent it insidiously develops itself in his own home. If, in his nursery, passion were unrestrained, truth not adhered to, consistency not seen, the youthful mind will receive the impression, and future life develop it. But, if in his home, all is purity, sincerity, truth, contentment and love, then will these influences be felt upon the home of the boy.

A man who does not habitually reverence his mother in speech and conduct, cannot make a kind husband. It may be that his mother is not amiable — some mothers, unhappily, are not. This does not affect the case in the least so far as outward conduct is concerned. The man who will treat his mother disrespectfully, or speak of her in terms of reproach or indifference, testifies by such actions that there is something unnatural in his moral constitution. Love for a mother is a natural instinct of the human heart. It is impossible in a properly regulated mind not to cherish tender thoughts and speak in respectful terms of the mother.

The man who fails in these regards gives evidence of a selfish disposition. He is the one who will look upon a wife as a chattel, designed for his personal comfort. He can respect no woman profoundly and tenderly, no matter what her relation to him may be, if he does not respect the woman to whom, above all others, he owes the most.

Kindness.

A kindly disposition and habit is a most desirable quality in a husband. It is the key-note of the home-life. This disposition in the husband and father gives tone to the household. Kindness in the heart is like rose-leaves stored away in a drawer to perfume and sweeten every object around. It is the essential principle of love, since it excites to bear and forbear, and to busy itself in little acts calculated to do good to others. It is not the great deeds

and the disposition to make great sacrifices, that condition the home atmosphere, so much as the little acts of daily kindness rendered. Kindness is the stimulant and preservative of love. It is impossible to resist it. It is balm to a bruised spirit and health to a sick soul. It refreshes the wearied heart like the gentle shower upon the parched earth.

See to it that a kind heart pulsates in his manly breast. Kindness will go farther and bring more pleasure and happiness than all the pride, haughtiness and asperity that can be assumed. A kind, sympathizing word falls from the lips like dew-drops upon the flower, imparting odors that stimulate the drooping spirit in a woman's breast.

A man with a kind and affectionate disposition will always find friends, or easily make them, while the opposite disposition sees only enemies. Kindness is one of the sweetest gifts in Nature. Like the pure rays of an unclouded sun after a gentle shower, it cheers and enlivens amidst anger and sorrow. It is essential to the happiness and well-being of every family, cheering the heart of the care-worn wife, giving stimulus to her sinking spirit and solace to her aching heart.

Purity.

No quality is more ennobling in a man or woman than that of purity; nothing is more repulsive, or unites either more closely to the brute creation, than impurity. Purity in its most comprehensive application to the life, the character and the soul, should be sought after in a hus-

band. Without it, no perfect union, no complete happiness, can be enjoyed. It is a law of physics that in the material world evil corrupts the good, while the converse, unfortunately, is not the case. Bring two perishable substances in contact, the one sound and perfect, the other unsound and decaying, and the good will be contaminated by the evil and ruined by it, while the perfect will have no power of arresting the destruction of the other. Place a single decaying apple in a bin of good fruit, and the whole will be destroyed. It may be a thousand to one, but the one will conquer.

In some degree this law prevails in the domain of mind. One depraved mind and soul coming in constant contact with another that is pure and chaste has the advantage in influence. It is a proverb that one bad pupil will ruin a whole school of good ones. There are reasons why this is so, but it is sufficient to admit the fact. The woman of pure mind and chaste life who mates herself with a man not possessing these qualities, but possessing their opposites, incurs the risk of two evils. One is that in the intimate familiarity of conjugal life the perfect knowledge of her husband's character must become known to her. With this full knowledge there will be a shattering to dust of the idol she has erected in her own mind, and before which her heart had bowed in affectionate reverence. Herself pure, she will be shocked at the grossness with which she finds herself united. Following this shock will come a loss of respect and reverence. These emotions disturbed, there must inevitably follow a shaking of the

affection itself, since respect is the foundation of all genuine, lasting affection. Repugnance and alienation are natural and easy steps.

The other danger is that she herself will suffer. It is sometimes said, half-jocosely and half-sneeringly, and yet with a great deal of truth, that a woman's affections are so constituted, that the meaner and baser the object of affection becomes, the more tenderly it is loved and cherished. It is only a half truth, but it is that. Granting this much, it is easy to see how the wife will suffer degradation through her tenacious affection for a depraved husband. He is naturally the stronger; she the weaker. He leads; she follows. He is bad; she good—and therefore the tendency is for her to go to him. Morally she is above him; but gravitation tends downward. Human nature, at its best, is depraved. It is easier to go down than to go up. It is easier to pollute a pure mind than it is to refine and elevate an impure one.

There are few men and women of middle life who cannot call up in memory instances in which pure-souled girls of early acquaintance who, through *mésalliance* in marriage, have degraded into coarse, offensive, repugnant women. On the other hand, the cases are rare wherein such a marriage has resulted in the redemption of the husband and his elevation to the refined plane on which his wife moved at marriage. There are such cases, certainly, but they are few in comparison with those that have eventuated diversely. There is a romantic notion cherished by many girls in their teens that they will marry

men and reform them. It is generally but a bit of cheap sentimentalism, and those who are beguiled by it are not, ordinarily, strong enough mentally or morally to accomplish the end, even where it may be possible.

Marriage is too serious a matter for sentimental experiments. It is too profound and far-reaching in its influence on the life and happiness of any woman to warrant her indulging an experiment or taking any unnecessary risks. The time to decide these questions concerning the character of a husband is before marriage, not after. Then it is too late. She has taken this man for better or for worse; and if it be the latter, she must abide by it. The time of courtship is the opportunity for discerning the character and deciding the result.

No woman contemplating marriage is justified in deciding to ally her life with that of a man whose life has been impure, or whose soul is base and sensuous. It is not an easy matter for the maiden to fully discern the character of her lover. But it is not difficult. It requires only ordinary observation and discernment. The mind filled with impurity will betray itself in a hundred ways, and by tokens that cannot be misunderstood. Shun the base soul as you would the deadly contagion. Avoid all possibility of realizing the dark picture that has been portrayed by refusing to unite your fair, pure life with one that is smirched with the pollution of an impure life or soul. Give your life into the keeping of no man save his whose mind is pure and whose life is clean.

There are many such men. Despite all the harrowing tales that are daily recounted in the history of human lives

of depravity and wickedness of men, the majority of men with whom young women of taste and refinement associate are clean. The very fact that a young man finds delight in the society of pure women argues for his own purity of heart. The vile do not seek the good persistently. Soul seeks its congenial soul. Besides, it is to be remembered that for every case of evil that comes to public notice there are a hundred that remain unnoted—unnoted because they have done no wrong. The man who goes astray attracts attention, because it is something unusual. The exceptions are always more prominent than those which conform to rule. No woman need marry a man of coarse mind and depraved life because there are not scores of better men to be found.

Temperance.

No characteristic should be more rigidly insisted upon in a husband than that he be temperate. The man who has acquired the drink-habit, no matter what his other qualifications may be, is not the man for a woman to marry. No evil is more prevalent, more wide-spread, more destructive of all that renders life enjoyable and desirable than that of intemperance. It ruins body and soul alike. It numbers its victims by the thousands, and selects them from the noblest as well as from the lowest walks of life. It attacks men under the guise of friendship, worms itself into their confidence, steals away their reason, undermines their resolution, influences their passions, entraps their senses, and sweeps away the bulwarks of their

purity and honor. Alcohol is a foe to the human race so subtle and powerful that it destroys the very humanity of man ; vitiates all the mental processes of those who indulge in it, degrades morals, induces pauperism and crime in individuals and communities in the superlative degree, when compared with all other causes, corrupts the home into a hell, and wasts the material resources with a lavish and remorseless hand.

Its history is the history of misery and vice and crime and woe and wretchedness throughout the world. Its names are legion, and its forms without number. It varies in hue as the color of the rainbow, and in taste to suit all palates ; sparkling in wine-cups, foaming in tankards, creaming in bowls, it weaves a spell of enchantment around the young, the gay and the thoughtless, and leads them by gentle witchery, until their feet are bound with a cord of seven-fold brass. No siren is more seductive, no music more captivating than the ruining wiles of alcohol. Eloquence has been laid under tribute to proclaim its virtues, poetry has wreathed for it a garland of roses, while mirth and wit have crowned it king of all good fellowship.

But, in the end, " it biteth like a serpent and stingeth like an adder." The cup that sparkles with brilliant hues which captivate the eye, and whose hidden power fires the veins with fever and life, has a dreg that is the poison of death. He who drinks for pleasure will drink again for passion ; he who drinks for passion will drink again for madness ; he who drinks for madness will drink again for death and hell.

From every point of view, it is hazardous for a woman to join her life to one who is intemperate in his habits. She is committing her happiness into the keeping of one who is not his own master, but who is the slave of a demon that knows no mercy, no relentment, no remorse. She is entering upon a future that is dark and threatening for her comfort, peace and material enjoyment. She is electing for the father of her children one whose veins are poisoned with a venom that pervades every globule, and which will be bequeathed to the children she may bear. Every consideration of wisdom and prudence urges upon her to avoid such an alliance. The skies may be bright about her and the tempter may whisper to her silly heart that there is no danger; he is not like other men; he will never be different from what he is now. There is danger. Experience, a thousand times repeated, declares in tones that cannot be drowned or misinterpreted, that there is always danger ahead of the man who is intemperate. History and observation alike decree that all men are alike who come under the domination of appetite. Stronger and better men than he who now fills all the maiden's life and desires, have fallen so low in the scale of humanity that nothing remained but a bloated and disfigured form.

The demon of drink will not let its victims alone. He will entice, cajole or drive until he have them wholly in hand, and then he will rush them headlong into the abyss of ruin. He debauched Noah; he cursed Canaan; he brought down the divine maledictions again and again

upon Israel. He has sat in the cabinets of kings and in the halls of legislation ; he has murdered armies and overthrown states ; he has inspired plots and intrigues and crimes in every nation, in every clime, at every time, and among all peoples. And he is stronger, more seductive, more ravenous and more agressive to-day than ever before. No class, no age, no sex is safe from his power if once a pause is made to dally or parley with him. There is no safety except in entire abstinence from any toying with the tempter. No warning can be made too emphatic against committing the keeping of life, peace, comfort and happiness to one who is in any degree under the power of this demon.

Industry and Frugality.

These are twin virtues. They should co-exist. Without either, no man, however opulent he may be in the present, has a certain guaranty against want and poverty in the future. Dissevered, each is weak. Where one exists without the other, the life becomes like a sieve or a treadmill — gaining much but losing as much — or a continual grind with little comfort and enjoyment. But where the two qualities are found in a man, a safe and comfortable future is assured. He may never become wealthy ; but this is not to be always desired. He is certain to acquire a competence.

It is the husband's part to provide his wife with a home and maintain the same. It is the wife's place to make that home happy. Marriage is too sacred a step to

contemplate wholly from a material standpoint. "Marrying for a home" is as much to be condemned as "marrying for love," and nothing else. At the same time, marriage is by far too serious a step, and too far-reaching in its influence upon a woman's life for her to totally disregard all material prospects. It is her right and duty to herself to demand that the man who solicits her to go into his home as its mistress, shall have the qualities which insure a permanence to that home, as well as a provision for its continued maintenance.

This is not degrading marriage. On the contrary, it is placing it upon a plane of reasonable common sense. Too often are young women liable to underestimate or to overestimate the present condition of the man who asks them in marriage. The practical but near-sighted maiden will say, he has nothing but his trade. She forgets to note that he is not only a skillful workman, but is industrious and energetic in his work, temperate and frugal in his habits. Therefore, she decides that she cannot join her lot with his, dreading the uncertain future. Another will say, he has a good home and a competence. She neglects to note how this home was secured or this competence accumulated. She also fails to observe that his industry is spasmodic, or has no existence at all, and that he is lavish and extravagant in his expenditures.

A decade or two roll by. The first-named man at middle life is honored, respected, with a comfortable home, a competence accumulated, and enjoys a happy lot. The other has made no advance, and perhaps has frittered away

in idleness and extravagance all that he had a score of years before. Cases like these are known to everybody. The sequence follows legitimately in each case. The maiden must be wise as well as practical. She must, if she would reach a safe conclusion, not only look at the present, but at the factors which exist in the life of her lover, and trace the operation of these to the logical conclusion. Industry and economy will, other things remaining the same, succeed in the race of life; whereas, the lack of these even with opulence will inevitably bring want. Possessing the qualities above-named, and all other things satisfactory, the absence of any considerable means whereby to support a family, need not deter. The strong right arm of that man, nerved by love for his wife, will hew a way for himself and for her that will land them in a comfortable old age.

Aside from the considerations named, a woman should desire her husband to be industrious and frugal, for physiological and moral reasons. Such a man is likely to enjoy better health and incur less temptation to fall into offensive and ruinous vices. Idleness is the parent of vice; industry, of virtue. Industry is a condition of contentment, and contentment is happiness. Industry and virtue are correlative. Virtue, says one, keeps its possessor to his daily task, and his daily task keeps him to virtue. Experience and observation amply corroborate the truth of the apothegm. The industrious and economical man is a better man than the idler and spendthrift. He is more cheerful, pleasant and happy. He creates a better home

atmosphere, is less selfish and more helpful and considerate of others. He may be prosaical, but he is honest; he may be plain, but he is pure minded. He has no time for the tempter. He is too busy to form evil associations, cherish extravagant dreams, or indulge vicious appetites. But in the long race of life he is a certain winner. In the sober, practical realities, he is a sure defense and reliance. Happy is the maiden whose heart has been given to such a man. He will fill all her life with sterling joys and substantial blessings.

Business.

Closely associated with and assumed in industry and frugality must be found the possession of some legitimate means of making a living. No man has any warrant for expecting success, no matter what his parts may be, who has not mastered some particular trade or profession. This was rigidly insisted upon among the ancients. No matter how opulent a father might be, he made each of his sons elect some business calling, and thoroughly master it in all its details. The intention was that if ever the contingencies of the future should deprive the young man of his patrimony, he would not be helpless; he would have the means of subsistence in the skill of his hands. It was a wise provision, and the necessity for it still exists.

A man with versatile accomplishments, yet no specialty, is a very uncertain creature. He can do a little of everything, but a good deal of nothing. An English writer of position says truthfully: "Versatility seldom pays." He

meant that it seldom leads its possessor to any great or desirable success. It makes a very companionable sort of a man. But a man who sets up a home of his own and asks a woman to take the risks of life with him, must be more than a pleasant companion. He is to be the architect and builder of the family's fortune. He must not only be industrious and thrifty, but must have some specific channel in which these qualities can find successful occupation.

"But," says the young woman, "I intend to marry for love." What do you mean by this expression? Is it love in the abstract? The voluptuous, physical part of your being is the only monitor that guides you in laying a foundation for home and all future enjoyment. He is to be regarded of paramount admiration that lays hold on life and business as if he had a mission in the world, and intended to discharge it with fidelity; who is among the working bees in the hive of business, not a drone upon society. Thousands of young women rush blindly into matrimony, taking it for granted that he who professes so much love and attachment will provide for the current wants of the family, without stopping to ask whether or not he has any way of doing it. Every young man, before he undertakes the obligation of a household, should acquire a trade, a business that will insure at least a comfortable living for those dependent upon him.

Young woman, if the man who is offering you his hand in this holy covenant have no well-defined business, or if he have, and do not possess the proper energy and

industry to follow it, look him squarely in the face and ask him with all sincerity : " What do you intend to do with me ? "

The propounding of such a question implies no doubt of his affection or intent. On the contrary, it is evidence of the profoundest interest and confidence in him that you can ask such a question. No sensible man will be offended with you. He will esteem you all the more highly for the good, common sense you display. He, if he be a man worthy to be a husband, is seeking a companion, a helpmeet for himself; one who is willing to engage in the battle of life with him and bear equally its burdens.

The man who has no trade or profession is in a sad plight. He is practically a helpless member of society He is an incumberance in the home of which he should be the life and support. He is wholly without excuse. In this wide-spread and expanding country, no one need be without some legitimate business. All trades and professions are open to the man who has the skill and energy to go in and occupy. Men and women without a business are the pests of society. They are thieves, stealing what is not their own ; beggars, eating what they have not earned ; drones, wasting the fruit of others' industry ; leeches, sucking the life-blood of others ; evil-doers, setting an example of idleness and dishonest living ; hypocrites, shining in stolen and false colors ; vampires, eating out the life of the community.

Aside from the fact that a certain definite business is demanded in order to insure against all the contingencies of the unknown future, there exists another reason why a woman should hesitate to marry such a man. The lack of a specific business is an indication of character that ought not to be ignored. It means either the man was too indolent and imprudent through a lack of necessity to provide, by this means, for his maintenance; in which case, what was said in a previous chapter should be considered. Or it indicates a lack of persistence and singleness of aim, so essential to any great success. Many young men fritter away the time of trade-learning in doing nothing. They waste the golden time of youth in endless changes and wanderings. They try this thing and that, and go on to another. They cannot settle their minds to do one thing, but must be continually trying everything that comes to hand. They look at a hundred things and see nothing; whereas if they looked only at one thing they would see it, and see it distinctly. They grasp at random at many things and catch nothing. And so they find themselves ready to marry and yet have no special business on which to support a wife.

This variableness indicates instability of character. It is a weakness. Such men would hardly succeed even under the most favorable circumstances, while ordinarily they stand no show at all. One trade well understood is worth more than a half knowledge of a score of trades. It is excellence that is always in demand in the market. The skilled workman can always find something to do.

Jealousy.

There are some men excellent in every regard, but who are unfortunate enough to be afflicted with a sort of insanity regarding the woman to whom they have given their affection and whom they desire to marry. They are jealous-minded. Such a disposition is greatly to be deplored. It leads to most deplorable unhappiness in the lot of a wife whose husband is afflicted in this way. He is chronically unhappy himself, and she is equally so. The jealous man insults his wife every moment of her life. Chaste, upright and sensitive, how galling it must be to her to be subjected to suspicions, and surveillance and espionage? No sensitive spirit can brook such treatment.

Silly and unreasonable as this trait is, it has been the cause of untold misery in many homes, and has led to domestic infidelity and ruin in numberless cases. Not infrequently it has driven the wife into crime, or insanity, or the grave; and the husband who harbors the feeling to inebriation, to gambling, or to murder. It indicates a small mind, an unreasonable disposition and a passionate spirit. These are not the traits to insure domestic peace, tranquility and happiness. On the contrary, they are the fruitful source of broils, and misery and wretchedness and woe.

Be sure that no jealous blood courses through his veins. Jealousy is that fiend of human happiness that destroys thousands of families, poisoning the atmosphere

of domestic bliss. It plucks the rose from the cheek of beauty ; it withers the laurel in the crown of happiness, and makes general havoc in all the social relations of life. Treason, murder and suicide follow in the train of this demon spirit, preying upon the vitals of self-government, grinding the blade that shall pierce the bosom of her who has plighted her all upon the nuptial altar.

Of all the passions, jealousy exacts the hardest service, and pays the bitterest wages. As you value your life and all earthly happiness, cut short your acquaintance with the man who watches in unrest and with scrutinizing gaze your every movement in the social circle ; whose face reddens with suspicion at beholding a stray ring upon your finger or an unknown picture in your album. If jealousy lurk in his bosom, so sure will misery dwell in his home.

Morality and Religion.

Never seriously consider a proposition of marriage from a man who does not possess a substantial moral character and a religious veneration. Morality and religion are the foundation of all true character. The man who has no sensitive regard for right because it is right, and God because He is God, is no proper custodian of a woman's life, reputation and happiness. He is not the man that any woman should elect to be the father of her children and their guide in tender years. No excellencies that a man possesses can atone for the lack of these qualities. He may have graces and accomplishments, wealth and

standing, talent and power; but if he lack a sensitive moral nature and an enlightened conscience, he lacks what makes everything else desirable.

All the investigations of modern science, in respect to crime, have established the fact that its mental and moral qualities are hereditary; a thief, a robber, or murderer imparts like propensities to his offspring. The criminal classes in all countries have sprung from the marriage of wicked and vicious persons. Through this channel, notwithstanding the efforts of the State to reform, criminals increase in a greater ratio than the population.

Frequently young men who have spoiled themselves by a career of vice and crime are most particular in respect to the character of those whom they seek to marry, and are very watchful in selecting for wives pure, young and inexperienced girls, totally ignorant of the vices of the world. Occasionally such unions have a beneficial effect, the influence of the purity and virtue of the one predominating over the tendency to vice in the other; but such cases are extremely rare. "Can a man take fire to his bosom and not be burned?" The young woman, once pure and good, is either contaminated by contact with one who is wholly demoralized and defiled by sin, or her very existence becomes wretchedness and misery. Instead of enjoying those noble qualities of soul which she ought to admire and respect, she finds naught but selfishness, sensuality and moral corruption.

Do not risk your happiness on missionary experiment, and marry a man who is known to be of bad character

with the idea that you can reform him. This herculean task may be, indeed, accomplished, but quite too frequently the reformation is only feigned, and the man who promised in the days of his courtship to be his wife's highest ideal of pure and noble manhood, lapses only deeper into the slums of moral corruption where evil practices for years have held him. The man who holds out to a woman, as an inducement to marry, the opportunity to reform him, is usually unprincipled. He who really wishes a reformation should start on that high road himself, and pursue it until the work is fully accomplished, before any woman should enter with him into such an important and lasting relation.

The Right Time to Marry.

This is a matter of comparatively little importance. It will depend largely upon the social condition of those entering into the marriage relation. A time of year should be selected which affords the most leisure. The real enjoyment of the honeymoon will depend on entire freedom from business cares and concerns.

In the country the autumn generally brings a long season of comparative inactivity. When the harvest is garnered and the fruits of the season gathered in, no pressing demands are made upon the time. There is leisure to enjoy such social amusements as may be had. The new home can be set up and its arrangements made without such haste as makes the task a burden, or without encroaching upon time that ought to be given to other things. Nothing so delights a husband and wife as the

arrangement of a new home. It is also necessary at the outset of the new life to establish social relations with the community in which they are to dwell. It most frequently happens that a wife is brought to a new community. It is exceedingly advisable that her husband be much with her in receiving the friends that may call, and in assisting her in the returns made. It will relieve her embarrassment and more readily establish an easy footing. He may, perchance, by a word of caution or counsel, enable her to avoid making blunders that would not only be annoying, but injure her future relations in the community.

Reference to the statistics of the country on this point reveal the fact that spring and fall are usually the times selected. There are some reasons that are indicated from the teachings of Nature that would point to springtime as the more commendable. This is the period generally selected by the lower animals as the time for mating, which may be a significant suggestion to the human family. At least, some have taken advantage of it as an argument favoring marriage at this time. They follow it with the additional reason that, in the case of a birth within the year, the child will have attained sufficient age to resist the disorders of teething before the approach of the second summer.

It is well, at least, to avoid as much as possible the extremes of heat and cold, as both wear heavily upon the physical organism. Every advantage of season possible should be taken, that the woman may enter upon her new and experimental life in the enjoyment of the most favorable surroundings.

Regarding the time in the month, prudence and Nature are alike suggestive. There are certain times in every woman's month that alone would indicate an unpropitious time for the consummation of such social relations. There is, with most women, a feeling of extreme sensitiveness as to ordinary appearance in society under certain circumstances, and surely it would be quite embarrassing to enter matrimony at this particular period. Hence, she should select a day about midway between the times of her periodical sickness. If her periods occur every twenty-eight days, she should allow twelve days to intervene between her entire recovery from her sickness and the day of her wedding. This would bring her safely into Nature's period of sterility, that she need not suffer the embarrassment consequent to early pregnancy. This sometimes is followed by a few days of premature birth, which, in a gossiping and uncharitable community, might reflect unjustly upon her character. Moreover, this would be a time in her month in which she would be in the enjoyment of her best health, having fully recovered from the exhaustion consequent to her sickness.

The Wedding.

The term "wedding" is employed ordinarily to designate all the festivities incident to the celebration of marriage. It includes, therefore, the precedent and subsequent circumstances of which the marriage rite is the central point. Comprehensively, it refers to the preparations of the bride for receiving and entertaining her

friends, the announcement to expected guests, with invitations to be present, the marriage ceremony itself, the marriage banquet, other festivities, etc. In so far as these matters are concerned with social etiquette, this work has nothing to do. In so far as they concern the physiological interests of the bride, a little counsel may be profitable.

The elaborateness of the wedding will always depend on the circumstances of the contracting parties. It is the privilege of the bride to elect how extensive these shall be. This is a most beneficial social custom, though, unhappily, it is not always exercised to the best advantage. Too many brides are concerned as to how the wedding will be considered by others, and forgetful of the drain that is being made upon their own nervous resources. There is too much serfdom to social culture, too little regard to physiological common sense in social centers. It is the one great event of life to a woman ; and, therefore, she must make the most out of it possible. It must pass off with proper eclat, or she will be socially degraded. It must equal or surpass similar events in the lives of those who were her social equals. These, and other like considerations, often influence brides to use their privileges on this important occasion, only to multiply trials and complications through the exhausting demands necessary in passing through the marriage celebration.

While the bride is to decide how, when, and where she is to be married, it is always advisable to consult the bridegroom in regard to the general and many of the par-

ticular arrangements. For obvious reasons, his judgment is better than hers. While she is liable to think of others, he thinks only of her. He will ordinarily favor all arrangements which impose the least labor and nervous excitement on the bride, and this is a consummation devoutly to be wished. Men, as a rule, are simpler in their tastes than women. Unmarried men, too, have closer intimacies with married men than maidens have with their married sisters. The bridegroom, therefore, will be more likely to be thoughtful of those arrangements which tend to the better physical good of the bride than she will. In any event, it is a ceremony which concerns both equally, or almost so, and there should be entire harmony with regard to all attendant circumstances. There will rarely be any difficulty in securing this mutual agreement. Persons deeply in love with each other do not easily disagree.

If the bride reside with her parents, or have a home, it is customary to have the ceremony performed there ; or if she be an attendant at church, in that place. In the latter case it is customary to return to the home of the bride, where a formal reception, a banquet, etc., are held. In either case the conditions are about the same. There will necessarily be considerable excitement of the nervous constitution of the bride. The thought of the great change which is about to come in her life, the severance of all old and tender relations, the venture into a new sphere, on new and untried conditions—these alone are sufficient to excite her nerves to a high pitch. To these will be added

the presence of many friends, not all of whom are thoughtful of the nerves of the bride; the novelty of finding herself the central figure in ceremonies more or less public; the vigilance necessary to preclude annoying blunders, etc., all these will add to the drain upon her vital powers. It must not be forgotten that nervous exaltation, however delightful, is exhausting. It is a constant and great drain upon the vital powers. It will inevitably be followed by a season of depression as great and prolonged as was the antecedent excitement. For this reason it is exceedingly desirable that the wedding be as simple and as brief as social etiquette will permit. The change from maidenhood to wifehood is of sufficient magnitude to demand, for its safe and happy accomplishment, the most favorable conditions attainable. It is the greatest of unwisdom and gravest of error for the woman herself to make these conditions most unfavorable. She has, practically, the whole wedding arrangements in her control. Ignorance or thoughtlessness will bring bitter regrets. Not a few women there are whose failing health dates from marriage. Many of these women do not yet know, precisely, that it was not marriage which laid the foundation for a shattered system, but the unnecessary and imprudent conduct in the festivities connected with marriage. From the physiological standpoint, then, prudence demands that the strength be husbanded with the utmost frugality. Invite no excitement. Avoid all social festivities, however pleasurable, which impose an unnecessary drain upon the nervous forces. Nothing will be lost in a social way. If

circumstances warrant an expensive and elaborate wedding, the standing of the bride is so secure that she can dare to be plain. No friend of good sense will question the motive which prompts quietude and simplicity. If circumstances demand an inexpensive wedding, yield to them gracefully. No one ever gained anything of substantial benefit by pretending to have what she had not, or to be what she was not.

Unless the marriage be entirely private — that is, where the bride and groom with a friend or two, go to the clergyman's or magistrate's house, have the ceremony performed, and then depart upon their wedding journey, there will be guests to invite. Any book on social etiquette will teach the forms by which this may be properly done. Suffice it to say, that as the wedding is the bride's affair largely, it is her privilege to elect whom she will have present. There are two classes of persons whose claims stand first, and who cannot be ignored; these are her own and her prospective husband's relatives. It will be entirely proper for the bride to ask her husband for the names of all his relatives whom he desires to have present. She will ordinarily find that he will restrict the number of these to the lowest possible number. After the relatives come mutual friends, if there be any, her own friends and his. The invitations must all come through the bride or her parents. The bridegroom will elect his groomsman, though he cannot invite him to attend the wedding.

The only purpose in adverting to these social amenities is that the bride should fully acquaint herself with what

she is expected to do. Knowing this, let her, in good season, carefully prepare the lists of persons who are to be invited. It appears like a very small matter, but it is not, infrequently, a cause of worry and anxiety to the bride at the last moment, lest she have left unasked some one whom she would regret to neglect. If the matter be attended to systematically and in proper time, there is far less liability of neglect or omission. And it is desirable, above all things, that all worry and annoyance shall be avoided. Women have been known who have fretted themselves into a sickness because they discover, at the last moment, that they have overlooked some one whose presence was especially desired. Such risks should be avoided. In the high state of nervous excitement in which the marriage usually finds the most sedate of women, the veriest trifle is magnified. It is sometimes the case that a very slight cause of worry will, in the exaggerated nervous condition, lead to injurious results. What at other times would be dismissed with an apology and regret, will at this time weigh upon the spirits like a mountain load. For these reasons, let the invitations of the guests be attended to at a sufficient time before the celebration of the marriage to be free from its bustle and excitement.

The marriage ceremony is generally trying to the sensitive nerves of the bride. Instinctively modest and retiring as most women are, the publicity of the ceremony abashes them.

The bride finds herself a cynosure for all eyes, and conscious that she is being stared at, not with intentional rudeness, but by reason of a presumed license which the occasion allows. She feels that her every movement is watched, her every word and look scrutinized critically, her dress and appearance inspected to the remotest minutiæ. This shames, embarrasses and oppresses her; and this is intensified by the feeling that she is liable, under this embarrassment, to omit some detail or commit some error that will confuse others. She feels that she is in a condition to blunder in almost anything.

This mental state is trying. It has its ulterior effects, rendering her nervous excitement greater, and the exhaustive process more rapid and more emphatic. Happily for her, the ceremony is usually brief. There seems no way to avoid this ordeal. The best that can be done is to counsel the bride to thoroughly familiarize herself with the details of the ceremony. Let her go through it, either by rehearsal or mentally, so that she will be surprised by nothing in the real performance of the rite. This familiarity will give her confidence in her ability to acquit herself creditably; and this confidence will be soothing. The more comfortable she can be during the ceremony, the better it will be for her afterwards. If she can carry herself beyond this climax without experiencing undue excitement, she will have little trouble in preserving her calmness until the end.

The custom is to follow the ceremony with a banquet. It is a very unwise custom if we consider the character of

the feast and the conditions under which it is eaten. From what has already been said, it is manifest that the bride must be of extraordinary mold, indeed, if she do not find herself by this time not only without appetite, but also in that physical condition in which it is highly improper to take food into the system. The physical and mental strain under which she has labored for several hours, perhaps, has so affected the circulation of the blood as to leave the stomach and other digestive organs without a necessary supply. By no effort of will can she restore the equilibrium of circulation. The banquet is not unusually held at a late hour. Rarely, indeed, does the wedding feast take place at the time at which a meal should ordinarily be eaten. It is considered of such minor importance that it must await its turn in the programme, no matter at what hour this may be. This is no small matter. Many persons, in ordinary health and under no press of excitement, are injured by feasting at irregular hours. Much more seriously may it affect the newly-made wife. It must also be added that the nature of the viands is such that, unless sparingly partaken of, the result is certain to be injurious. The materials are rich and indigestible for the most part. Cakes and pastry follow highly-seasoned substantials, and of each and all the bride is expected to partake. The banquet is given in her honor. She must, perforce, show approbation. Well-meaning but thoughtless friends press her to partake of this and that, and she is powerless to resist. The result is, she finds that she has, without appetite, eaten a consid-

erable meal, at an irregular hour, of innutritious and highly-indigestible food. She finds, also, that her system is in no condition to retain such gormandizing. Nor is she allowed any repose. Back into the social circle she must go, to entertain her guests at the expense of her own powers. The best that can be said here by way of advice is that the wife eat as sparingly as she can. Not because her system does not need food, but because the circumstances are against its accomplishing its designed purpose. A woman with tact can escape gormandizing, and escape giving affront at the same time. It will be better for her f she do so. Better to delay eating until another time, when the conditions are more favorable.

A wedding journey is the prescribed finale of the festivities. It is usually begun on the day of the marriage, and is of variable length, both in the distance traveled and in the time devoted to it. It is a custom with some commendable features, but many that are the exact reverse. It is advisable that husband and wife should be alone for a week or two, both in order to enjoy the pleasure of each other's society, and to become thoroughly acquainted with each other. It is also highly desirable that this relation should be apart from the family and friends of both.

There is a vulgar familiarity indulged by close friends which cannot but be annoying and humiliating to a woman of sensitive and refined tastes. The looks, actions, and sometimes the words of such friends seem to intimate that the one object and aim of marriage — its *summum bonum* — is the indulgence of animal appetite. The sly

look, the suppressed titter, the covert insinuation, all point to this one fact, that such a thought is uppermost in the mind. The husband, poor fellow, is made to run the gauntlet of no end of gibes and intimations, doubly galling because they mean nothing disassociated from the woman who is now his wife, and whom he loves and respects above all of her kind. He can resent nothing. He knows, perhaps — the guilty wretch ! — that he has guyed his friends when they were married. Besides, to show irritation is to put himself out of character as a happy bridegroom. It is better, therefore, that the honeymoon be spent away from familiar friends.

It is not unusual to devote this time to travel, going from place to place sight-seeing, and living at hotels and public houses. This is unwise. Traveling and sight-seeing is exhausting, even in ordinary circumstances. It is tenfold more so under the conditions of the honeymoon. Few women at marriage are experienced travelers. They do not know how to travel and escape its weariness and unpleasantness. They are accustomed to the quiet of the home life, and the railway or hotel is trying to their nerves. The husband, be he ever so kind and attentive, is a comparative stranger. The modest wife shrinks from telling him her feelings or asking his aid. What she requires, more than anything else, is quiet and rest. This she cannot possibly attain in the bustle and strangeness of a city hotel.

A writer on this subject does not overstep the truth when he says: "The foundation of many an unhappy

future is laid on the wedding tour. Not only is the young wife tried beyond all her experience, but the husband, too, partakes of her weakness. Many men who really love the women they marry are subject to a slight revulsion of feeling for a few days after marriage. 'When the veil falls and the girdle is loosed,' says Schiller, 'the fair illusion vanishes.' A half-regret crosses their minds for the jolly bachelorhood they have renounced. The mysterious charms, which gave their loved one the air of something more than human, disappear in a prosaic sunlight of familiarity." This mutual revulsion of feeling is entirely natural. It will pass away in a few days, and a deep, abiding tenderness, founded on a more substantial basis than lovers' affection, will take its place. Patience and self-command on the part of both are needed, lest permanent dislike be established.

Many a woman, too, dates the loss of her health to her wedding tour. Starting upon it under the conditions which have been detailed, and continuing it in much the same circumstances as characterized the wedding festivities, she lays the basis of impaired health. Add to this the fact that the consummation of marriage means a great change to her physically, and the reason for her destroyed health can readily be seen. So many cases of permanent unhappiness and permanent ill-health dating from the wedding journey, come under the notice of all physicians that it is no wonder that many of them condemn it altogether.

This, however, is not necessary. A short journey is a benefit, if it be followed by a week or ten days of quiet,

peaceful rest in some home-like place. If it be summer-time, a sojourn by the seaside in a quiet hotel is delightful. After a day or two the wife will be familiar with the appointments of the house, and the home-like feeling will come over her. If the marriage occur in a colder season, nothing is better than a visit to a prudent, affectionate friend of the bride — one who is herself happily married. The wife will gain both the home-rest so demanded, and also can confide in her experienced friend what she cannot yet tell her husband, and can receive better counsel than even her husband can give.

Marriage Contract — Its Importance.

In the eyes of the law, marriage is a civil contract only. It is valid under certain prescribed legal conditions. The law looks no further than the well-being of the citizen. It recognizes the beneficence of marriage and takes control of it. It prescribes who may marry, when and how. When these regulations are followed, the law insures to the marriage relation the enjoyment of all the rights and privileges which attach to it. This, however, is a narrow view of marriage. The institution goes back and beyond all civil enactment, and rests in the authority of Divine appointment and approval. It was known at the very dawn of creation, and bears all the evidence of a necessary condition of human existence. The sacred record clearly asserts that the woman was made for man, implying that without her and apart from her, man was incomplete, and the conditions of human society imper-

fect. It may be said that marriage is ordained by God in the same manner that man's nature was ordained by Him. In its formal appointment, however, it is the work of man, and has ever been essentially a natural and civil institution.

Man, in his intellectual and spiritual being, was designed to be a complete representation of the Creator. This, in solitude and isolation, he could not be. In the fulfillment of this great design there arose a necessity for a companion, a counselor, who should be a "help-meet for him" — the exact counterpart and complement of himself, capable of receiving and reflecting his thoughts, sympathies and affections. So soon as the step in the work of creation establishing the nature and extent of man's social being and its entire applicability to the wants of society in all time to come was finished, Adam, directed by the inspiration of God himself, gave the great Magna Charta of marriage which should be of universal obligation to all of his posterity — "therefore shall a man leave his father and mother and shall cleave unto this wife and they twain shall be one flesh." In this charter, as well as in the manner of woman's creation — she being taken from man — unity of man and wife is fully established and manifestly expressed in the words "one flesh." What more significant term could be employed to unfold the intimacy of the relation existing between husband and wife, than the expression "one flesh?" The closeness of this relation is referred to in the New Testament by the great Apostle to the Gentiles to illus-

trate the closeness of the bonds of union existing between Christ and His church, which Christ Himself represents as being inseparably joined together. But our Lord and His Apostles re-established the integrity and sanctity of the marriage covenant by reiterating and thereby confirming the original charter of marriage as the basis upon which all regulations were to be framed, giving the reasons upon which the institutions of marriage rested. "Have ye not read that He which made them at the beginning, made them male and female?" and said "For this cause shall a man leave father and mother and shall cleave unto his wife, and they twain shall be one flesh." The necessity of the institution would appear to have grown out of the relative positions that man and woman occupied toward each other in their creation — that of being created male and female. "For this cause shall a man leave his father, etc."

The cause still exists upon which marriage is based; hence the institution itself and all that was originally implied in it remain in full force. Marriage being of Divine authority, its sacredness must not only be admitted, but in its enjoyment is to be experienced the highest type of social life. The importance of the marriage covenant may be seen in its biding effect upon the parties during their natural life. Such a contract should not be entered upon without the most careful and candid consideration. The formation of a partnership that is only to last for a few years should demand our earnest thought. How much greater should be the care taken in entering upon

one for life? Surely all the factors entering into such an alliance demand a most deliberate and candid consideration, and judgment rather than a hasty obedience to the dictates of a blind and impetuous passion.

Remember that all the relations of life, physical, mental, social and moral, are involved in the formation of the marriage contract. The entire development, position in society, and true character before mankind, is to be weighed in this scale of matrimonial alliance.

The statistics of all countries clearly demonstrate that marriage is conducive to health and longevity. Married persons live longer and enjoy better health than the unmarried. This is only what might be expected, when we contemplate the wisdom of the Great Architect of our being. In carrying out His plan in the drama of life, which involves marriage, the greater health and happiness are enjoyed by His creatures. It might naturally be supposed by the casual observer that, inasmuch as entering upon the marriage exposes women to disorders and dangers not common to the unmarried, the death rate would be correspondingly increased; but such is not the case. On the other hand, married women are not only exempt from many diseases that prey upon the unmarried, but they are free from the mental strain and worry which so many unmarried women experience, especially as they advance in life. From well authenticated statistics, there is no question that the tendency of marriage is to prolong life and to conduce greatly to individual welfare and happiness, when its ends are not perverted and its privileges abused.

From what has been said with regard to the nature, extent and social bearing of marriage, anything looking toward an alliance of such serious and permanent character demands our most thoughtful consideration. It is to be feared that too many rush forward heedlessly, without giving the thought which the importance of the act demands. "To be engaged" is a condition in life that is entered into as if it were of but little moment. Many of both sexes are often heard relating with a gusto how frequently they have been engaged. Surely such engagements made but little impression upon their affections, or they would not be able to as easily extricate their hearts as they did their words. To trifle with affection is quite too serious a matter to be recklessly indulged, lest they should become so fickle as to be like the needle surrounded by a number of magnets — unable to settle any where.

Ponder well the advice given in regard to the choice of a husband, and finding one that possesses the characteristics described, who offers you his heart and hand, accept him as a gift from heaven, and permit nothing short of the sentiment of the following lines to fill your heart:

"In bower and garden rich and rare
There is many a cherished flower,
Whose beauty fades, whose fragrance **flits**
Within the flitting hour.
Not so the simple forest leaf,
Unpraised, unnoticed, lying —
The same through all its little life —
It changes but in dying.

Be such, and only such, my friends;
Once mine and mine forever;
And here 's a hand to clasp in theirs,
And shall desert them never.
And thou be such my gentle love,
Time, chance, the world defying;
And take — 'tis all I have — a heart
That changes but in dying."

Divorce.

The legal separation of a husband and wife and the effectual severance of the tie that bound them together, has been allowed in all ages. The authority for it is traced to the Mosaic laws, which form the basis of all civil laws upon the subject. That the Scriptures teach that a divorce is proper for cause, cannot be gainsaid; but that a multiplicity of causes such as now obtain in the civil statutes of our country can be traced to this authority, is not true. A close study of society at the time the Mosaic code was given will reveal the fact that marriage did not rest on the high plane it afterward reached. The Hebrews were undoubtedly far in advance of contemporaneous nations, but they were far from being perfect. Persons were married in much the same manner that they are in India and China to-day. The woman had little, if anything, to say about it. The persons marrying might or might not love each other, might or might not be mutually suitable; these were accidents if they existed. The marriage was a commercial or economical management merely.

By reason of this there was much unhappiness and crime among families. The laws of Moses aimed at

mitigating the social condition rather than at sanctioning a wrong. Whatever may have been the license given, either by the Mosaic code or by the social enactments of the times for the abrogation of the bond of union by which the husband and wife became one flesh, the great Lawgiver Himself while upon earth fully established its extent and import. He condemns in unequivocal language the practice resulting from the enactment of Moses, the putting away of a wife without any crime on her part, through dislike or mere caprice of the husband, as utterly opposed to the original, Divine idea of marriage, according to which a man and his wife were joined together by God to be one flesh, and are not, by man to be put assunder, except it be for the crime of adultery. "Whosoever, therefore, puts away his wife by a bill of divorcement, without her being guilty of this criminal act, causes her through the medium of the license thus given to marry another man, to commit adultery. Thus the party suffering the divorce is criminal in marrying again as is also the man she marries, but the husband who divorced her is responsible for her crime."

In some parts of the United States there are associations calling themselves Christians, who wholly ignore the Divine nature of this bond of union, making it altogether a civil institution that may be annulled by the authority of the State for almost any pretense whatever. But any legislation whatever that overlooks or sets aside the great principles of social life as they have been outlined by the wisdom of the Lawgiver of Nazareth, is fraught with

baneful influence to the State and will work corruption in the lives and practices of its subjects. No matter how this question is viewed, whether from a physical, social or moral standpoint, the disregard paid to the solemn, binding nature of the nuptial bonds, and the unlimited liberty assumed by the courts to grant bills of divorce, for almost any pretense, is dangerous, and will poison the best life of society.

By losing sight of its sacred and binding effect upon the parties, hasty and inconsiderate matches are encouraged, an inclination to overlook each other's peculiarities is stultified. The security of the family ties is shaken, and the morality of the social life jeopardized. The practice of many courts in the States has become so lax in the exercise of the trust imposed in them, that divorces are granted, separating the wife from her husband without even her knowledge of the transaction, until to her surprise the periodical of the day announced the marriage of her husband to another woman, thus driving her from the bed and board of her husband, to wander alone amid the charities of an unfriendly world, or seek refuge in an alliance with another man, with whom she must, according to the law of God referred to, live in a state of adultery.

It well becomes the State to environ the marriage covenant with such bulwarks of legislation as will compel the courts to scrutinize with the most profound care the averment in the petition for a bill of divorcement, that wives be only separated from their husbands when found

guilty of infidelity to that bond of union existing between them, by which they become one flesh. What must be the depths of moral turpitude existing in the heart of man or woman who can appear without blushing before the social world who may have two faithful spouses living, to each of whom external fidelity, before God and man, has been plighted ?

Subsequent Marriage.

Widowhood is a condition which befalls many women. Death is ruthless and impartial, and careless of the misery, wretchedness and woe which follow his ravages. All that human wisdom, energy and power can do may be put forth to make a home lovely, strong and abiding ; it may be builded on the external verities of purity, righteousness and piety, garrisoned and girdled with honor, trust and affection, and fill all desire by its brightness, sweetness and beauty ; and yet there is no permanence. Disease besieges and death invades the home, leaving their mark in blasted hopes, widowed hearts and empty chairs. Sometimes it is one, sometimes another of the household that is taken away ; but hardest of all is the case when the husband and father is called.

From the earliest times and among all people the lot of the widow has been considered a sad one. Among the Hebrews she was treated with special respect, while her condition, in the Sacred Word, is made one which appeals with peculiar power to the Divine commiseration and care. In some parts of the earth even to-day widowhood

involves social degradation. In our own and other highly enlightened lands, the hardship of this lot is recognized by special laws and courts which take cognizance of the legal rights of widows and orphans. She is a widow! Let this sentence be spoken, and the person designated at once claims the respect, the deference and the sympathy of society.

It cannot be said that the material lot of a widow is different from that of another woman. Socially she maintains the position to which she is entitled. In the church she is treated with even more deference than she was as a maiden and wife. If she has a home she controls it as she pleases and her property is her own. But, after all, this being admitted, it still is true that the woman who has once enjoyed the affection and care of a husband has a sad and lonely lot when bereft and widowed. She has tasted of the sweets of marital affection and the serene happiness of domestic life. She has experienced the joy and content that comes of being tenderly loved, cared for and trusted, and of loving, confiding and relying upon implicitly in return. When the bitterness of grief has passed away, there remains a tender remembrance of what has been lost, which the emptiness of the present only intensifies. As the days pass on, this remembrance becomes a yearning, and it is not at all strange that it should. When this state is reached, perhaps there may come across her life another opportunity to enjoy the love of a husband and the comforts of domestic life. Shall she accept?

There is no reason why she should not, and there are many good reasons why she should. The same considerations which once induced her to become a wife are still operative and she has nothing more to consider than she had in selecting her first husband. Morally, the right to re-marry is indisputable. By the operations of death, she "is loosed from her husband" and is free to marry another. This is the teaching of the sacred Scriptures. Viewed from the social standpoint, other things being equal, her lot as a wife is much to be desired in preference to her present widowed condition. If she marry wisely and prudently she will find in her new husband a friend and protector equal to the one she has lost.

An opinion prevails quite extensively that a woman can never love truly and deeply but once. This is mere sentimentalism, and to the physiologist, it is a manifest absurdity. To the psychologist, it is a wholly untenable position. He recognizes that love is only one of many emotions of the soul and conforms in its operations to certain well-defined laws. It consists chiefly of two elements, a pleasurable sensation, created in the soul by some objective fact — person, thing, experience, etc., — and a desire to do good to that object if it be a person. All that is needed, then, for the creation of love is the perception of a certain quality in an external object; the perception will excite the pleasurable emotion and the emotion will lead to the desire. The feeling cannot be excited unless the object containing the proper quality be brought in contact with the perceptive faculties. But

when this is done, the emotion irresistibly is stirred. The more frequently the lovable quality is contemplated, the deeper is the impression made, and, consequently, the more profound is the emotion resulting. But the converse of this is also true as a psychological fact, whatever sentimentalism may have to say about it.

Let a case be supposed: a man and woman are naturally in love. At a proper age, they are married. They are well mated, and live together in the enjoyment of reciprocal love in a pleasant home for a decade. The husband dies and the wife is left a widow at, perhaps thirty years of age. Like all women in her condition, she feels that half her life is taken away. And though the tie by which Heaven declared them to be one flesh is severed, she feels that she can never love another man, because the only man who ever did excite the pleasurable emotion of love in her is gone. This feeling will continue for some time. But as her husband will never more be brought in contact with her predominant senses, he must gradually cease to excite the emotion. Love, however deep and genuine, cannot live upon itself. It must be continually nourished, and memory is not a sufficient mother when the senses are alive and active. The actual fact is, that love dies out and only a memory of it remains. If, when this stage is reached, the woman comes into social contact with a man who possesses the qualities capable of exciting in her the affection of love, she will love him. The more she sees of him, the deeper her love will become, and she will repeat exactly her former experience. There certainly

are degrees of love; but these depend on the number of qualities possessed by the person loved which excite the pleasurable emotion, and the depth of the impression made on the senses by each or all. But it does not follow by any means that a first husband necessarily possessed these qualities and made this impression, and a second or third husband did not. It may be exactly the other way.

Marriage, Its Sacredness.

Various notions are held regarding the institution of marriage. Among barbarous nations it ranks little higher than the mating of animals. Among half-civilized and semi-enlightened peoples it is considered a convenient social arrangement, but entitled to no special reverence and respect. Among the highly-enlightened nations it is regarded of the highest importance to the well-being of society, and is guarded and defended by abundant legislation. Those who believe in a Supreme Lawgiver, and accept the sacred Scriptures as authoritative, elevate this institution to the highest place. It has the appointment and sanction of the Author of Being, and once entered into rightly, it binds the soul and body of the parties to it. In the Roman Catholic Church, marriage is elevated to the dignity and importance of a solemn sacrament which can only be properly administered in connection with religious ceremonies. In the Established Church of England, and its representative in this country, but little less importance is attached to the institution. And among all branches of the Protestant Church, marriage is clothed

with solemnity, and its obligations are held to be sacredly binding.

Outside those who regard marriage as a Divine institution, the vast majority consider it a social compact, into which both parties must enter voluntarily, and from which there is no release, save for weighty cause. All intelligent and thinking people agree, however, no matter from what stand-point marriage is viewed, that while the marriage continues, its claims are absolute upon both husband and wife. Of the justness of this conviction there can be no question. Marriage is an all-absorbing relation. To a certain extent, both husband and wife lose individuality. But it is a mutual absorption. The husband does not absorb the wife any more than the wife does the husband. The wife gives herself to the husband ; but the husband also gives himself to the wife. She is his, and he is hers. It is necessary to say this from the fact that there is a somewhat widely-spread fallacy, which assigns to the husband rights and privileges relative to his wife's person, which she is not supposed to possess with his.

There is not one code of moral and social ethics for the husband and another for the wife. The same governs both. They are alike and equal in the marriage relation. The life of each belongs to the other. Neither can, of right, entertain any plans and projects which do not include the other. The friends of one are the friends of the other, because they are inseparable. The home of one is the home of the other. The enjoyments, hopes, endeavors and prospects are to be mutually shared.

Because of this mutual proprietary and the intimacy of connection established by marriage, it is evident that the person of each belongs to the other. The law of chastity, which binds all men and women alike, is doubly binding upon them when in the marriage state. The man who violates it, not only sins against morality and society, but against his wife. He has given to another what belongs to his wife alone. He sins against his own body and against her body. Divine and civil law unite in stamping conjugal unchastity with a different name and a deeper crime than when the person committing it stands outside this relation.

Many men are habituated to acts which they would not tolerate in their wives. They seem to be possessed of the notion that they are entitled to indulgences which are absolutely prohibited their wives, and that a higher law of social cleanness governs women than men. There is no reason nor justice in this conduct and opinion. The wife is as free as the husband to indulge her desires, if she has any. The truth is, neither has any privileges outside each other, and neither can possess a right, a liberty, or a privilege which does not belong as well to the other.

Matrimony imposes bonds on those who enter it; but they are holy bonds. They bind absolutely and unalterably; but the links of the chain are of purest gold. The fullest and the sweetest liberty is allowed, and license only is inhibited. Every restriction is in the interests of health, purity and happiness. Every law is of mutual obligation, and has for its end the well-being of each and of both.

Faith in and faithfulness to each other is the certain guaranty of continued and increasing happiness. In all right reason neither party can claim from the other more than he is ready to extend in return. If the husband leads an unclean life, he has no right to insist that his wife shall not do the same. Because he does wrong she is not thereby warranted in doing wrong; but his dereliction deprives him of the right to demand straightforwardness and integrity of conduct for her.

Divine and human law alike insist on a life of purity and integrity for both men and women. A man is under obligation to obey these demands, because he is a man. This is equally, no more, no less, true of a woman. When a marriage relation is established between these two, neither is released from any obligation. The man continues to be a man, the woman a woman. Manhood's and womanhood's claims still bind them. Marriage adds new obligations. The person, life, conversation of each is sacred to the other, and each is bound to respect self for the sake of the other self. It is not sentiment, but moral and social obligations which demand that each shall care for self with a greater degree of consideration than heretofore; because every departure from rectitude in thought, in speech, or in action, in either husband or wife, necessarily involves the other. Neither stands alone, nor can act alone. Each must consider the other, and be governed by a regard for what is honest and pure in self, even as these are demanded from the other.

The New Home.

All the bustle, excitement and pleasant surprises of the wedding are over at last. The marriage ceremony has been performed, the congratulations of friends tendered, the honeymoon has waxed and waned, and now the young wife finds herself at the beginning, proper, of her new life. From the time of the engagement until this, she has been in a sort of transition period between maidenhood and wifehood, between the old life and the new. Maidenhood was a joyous, happy time ; but from the very nature of the case and the human constitution, a transient and half-satiating experience. Maidenhood is a developing period ; body, soul and emotions are enlarging and perfecting. In this developing, ambitions, desires, hopes are aroused which cannot find satiety in any experience which life then holds. The maiden knows that she is happy ; but she also knows that this happiness has no permanence in it ; that there is a fullness of life which she has not reached, a profundity of blessedness which she has not fathomed, a sweetness of desire which she has not tasted. Her eyes ever look onward and upward to wifehood and motherhood.

Now, wifehood is reached. Its preliminaries are all safely passed. Few women are ever entirely satisfied or comfortable during their wedding tour. They try to forget the past and keep the future back, and live only in the present. They rarely succeed entirely. Woman is essentially a home-loving being, as well as a home-maker.

Home is the native atmosphere she breathes. If the wedding tour be protracted, she becomes weary and home-sick. She becomes hungry for home. Besides, there is the pleasant anticipation of the new home — her home. All her own! It fires her woman's heart to think about it. It sends the blood coursing through her veins with intense rapidity, and she is eager and anxious for the days to pass and the time to come when she shall take possession of her own home.

She never realized fully until now what home means, what it involves, what it is. She has never really had a home. It was her mother's home where she dwelt. She was not essential to its integrity; for lo! has she not gone out of that home and it remains? No; she was not an integral, inseparable factor in the old home, and she realizes it fully now. But she is to have a home. She is to make it. It will be hers. It will center in herself. It cannot exist without her. She will be its queen, its presiding genius. It will be a happy home; she is determined on that point at least. It will be a retreat from the world, a resting-place in life, a defense and protection, a banqueting-house for serene and pleasant enjoyments.

Home is the prototype of Heaven. Within its walls, and nowhere else, can be portrayed a foretaste of what can be possessed in the blessed Evermore. It is home that binds souls to earth. The homeless are invariably weary of life and dissatisfied with earth. Death is cruelest and his blows fall hardest when directed against one who is the possessor of a pleasant, happy home.

The home-making will absorb all the heart of the young wife. It will give her the keenest delight, the most satisfying happiness. She will go about the task with the most intense zest. No amount of labor and drudgery, even, will weary her, when the purpose is to uprear a home for herself and her husband. She will relish fatigue and perform tasks that would have made her stand aghast to contemplate a few months before. True, she is doing it for herself and the loved being into whose keeping she has given her life. But it is no selfish task. The element of selfishness does not enter into the account at all. On the contrary, she is simply following an irresistible desire of her own nature, called into active existence by the new relation into which she has come. The home-making instinct is a part of her very nature, which has been developing during all the years in which she dwelt in her mother's house, and which has now burst into full fruition.

It matters little what the material condition is so far as the process of setting up the new home is concerned. Money cannot build a home, and poverty cannot prevent its establishment. If happiness and contentment possess the heart, and common-sense prudence direct the hand, the task will be the same delightful enjoyment whether the purse be heavy or light, full or empty. A gentleman whom all the world knows, and who now and for years has enjoyed a princely income, has said that no part of his life was half so delightful as the first few years after marriage when he was poor beyond measure. He details the pleasure which the purchase of every new article of

utility or adornment gave to him and his wife as far surpassing that which they afterward experienced when they were able to set up a magnificent establishment. Many others have borne similar testimony.

The wife and husband will enjoy the charm of setting up the new home, because it is to be their home, the resting-place of their souls, and the central place in the world for them. They will be very children in their delight, and do many silly things, no doubt. Perhaps some of their arrangements will bring a smile to the lips of older and more sedate friends. But the home-makers will not mind that. They will smile themselves in a few years, as they recall the play-house spirit with which they began married life, and the queer tastes and fancies which possessed them. But though the good friends will smile, they will be sympathetically good-natured. They understand it all, and rejoice that the new family is displaying so much genuine human nature.

When all is finished what a happy, proud, contented wife it is! And who has a greater right to be happy, proud and contented than she? Has she not done it all, and is it not her own? Blessed, hallowed home! Sweeter because of the study and labor that erected it, brighter because of the all-pervading love that prompted it. It is the place around which the heart's purest affections cluster, the permanent trysting-place of kindred spirits, bound together by abiding faith and love.

THE WIFE.

The New Epoch.

No period in a woman's life is more eagerly anticipated than that in which girlhood is to be forever swallowed up in wifehood. In this eager anticipation there is too often wanting that profound thoughtfulness which the gravity of the change should inspire. She is inclined to look only at the brightness of the prospect, to dwell only on the measured fullness of the cup of bliss that she will quaff, to consider marriage only in the light of completed happiness. Anxious thought and concern for all that marriage involves, does not always find a place in her mind. It is filled with bright dreams and pleasant anticipations.

And yet marriage is a serious step. It means much. It means more to a woman than it does to a man. It requires more at her hands than it does at his. It claims greater sacrifices, the surrender of more tender and precious associations and memories, the assumption of greater changes in her life than in his. Together they go out in the world to rear a new home. To him and to her this is a pleasant task. It should be. But to the husband, this home-building is the beginning of real life. Heretofore, he has been homeless. He has been battling life and enduring its bar-

renness. Home he has had none. He has dwelt among strangers and lived in tents. There is nothing behind him or around him in life that he does not give up with glad relief. Even though he go out from a happy home, he has long been restless in it. The impulses of liberty and independence have been urging him on to separation from the home of his father. And so he looks forward with no regrets over what he must give up, to the time when he shall have a home of his own.

With the wife it is not so. She has much to surrender that has fast hold upon her life and affections. Woman is essentially a home-maker and home-lover. The associations and surroundings of that home from which she must go are interwoven with the very fabric of her being. She may not think of it then, but she will when the time of severance comes, and for long days afterward. She has been a part of that home. She has nestled in her father's bosom with a conscious security. She has leaned upon a brother's strong and loving arm, and been his sweet comforter in trouble. She has entwined her affections about a sister's heart, and been the confidante of all her experiences. She has bathed in a mother's devotion and tenderness, and reposed in that mother's boundless love. All her life she, in turn, has been tenderly nurtured. She has had a father's strength and wisdom upon which she could draw at all times. She has had a sympathetic mother to whom every trouble could be confided trustfully, and from whose ripened experience instruction could ever be obtained.

THE BABY'S VISITOR.

All these tender associations, these helpful surroundings, these interwoven delights, must be left behind, and left forever. Hitherto, others have pointed out to her the way; henceforth, she must guide her own steps. Hitherto, she has followed where others have led ; henceforth, she must be a leader herself. Hitherto, she has been a pupil, sitting at the feet of trusted preceptors ; henceforth, she must be a teacher. A radical change comes over her whole outward life. Its conditions are revolutionized in a moment. She is no longer a daughter to be humored, a sister to be nurtured. She is a wife to counsel with, the ruler of a home, the friend, companion and comforter of a husband.

The thoughtful maiden, contemplating marriage, must see that the future holds many unrevealed experiences in store for her. She must realize that she is about to venture into a new world for which she is largely untried. She goes out from the known and trusted into the unknown and doubtful. Much as she may love, implicitly as she may trust the man into whose keeping she commits her life, the fact must come to her, in her more thoughtful moments, that he is still a stranger to her. Though she may have grown up side by side with him from childhood, much of his life has been passed in a sphere into which she has never entered. Now, indeed, his life and hers must be one. She must share his thoughts and emotions, his affections and his interests, his home and his lot. As his way leads, so must hers. As his joys and sorrows come, so must hers. As his motives, ambitions, and interests impel, so must hers. And she must be cognizant that this

way, these experiences, these interests, are all in ways which hitherto she has not known. When all these considerations are conned over in thought, the maiden may well be filled with anxious concern.

Outside the circle of her home, there must be change too. The friends and confidantes of her girlhood must be given up. The new life into which she enters has relations of its own, and these necessitate the abrogation of her present ties and relations. She has girl friends to whom she is greatly attached. With them she has often talked of the eternity and unalterableness of their affections, and vowed unwavering constancy. She has agreed with them that, no matter what others have done, no change shall ever come over the nature of their intercourse. All this she has done, and half-persuaded herself that it will be so. Yet, down in her heart of hearts, she knows that it cannot be so. What has been with others, she will repeat. The wife is no longer the girl. The step that takes her out of the one relation into the other, separates her from that which is left. The mutual oneness which has existed between her and her girl friends cannot longer be.

All these things are said, not to dismay and affright the prospective wife, but because they are true. They constitute reasons for thoughtfulness, not for discouragement. They should create a careful weighing of the step about to be taken, but not a resolution to refuse taking it. The change to be made, though radical and in many respects novel, is a natural one, and will bring with it a fruition of joy and happiness never experienced before.

If the maiden have chosen wisely, all her reasonable expectations will be fully met. Wifehood is a sphere vastly larger than that of girlhood. Its privileges and blessings are fully commensurate with its duties and responsibilities. Its blessings are vastly superior to those of the life to be left behind. Its joys are purer, deeper, and more satisfactory. Married life can and should be an unending honeymoon of bliss. The husband will be more than father and mother, brother and sister. Conjugal love is wider and deeper, sweeter and more abiding than the loves she has enjoyed in her girlhood home and life. It is an all-absorbing affection that meets every want, fills every longing, satisfies every craving.

The marriage day has come and gone. The maiden is a wife. Maidenhood, with all its unalloyed delights, or whatever it may have been, is gone, and gone never to return. Wifehood, with all that the relation implies, is come. The future of many a bright dream, of many a fond anticipation, perhaps of many an anxious care, is the present. The new world is entered, the new delights, duties and responsibilities are assumed, the new life is begun. The scenes which have led up to and culminated in the marriage ceremony have been those of excitement and bustle. The prospective wife has been the busiest of the busy, and she has had little time for sober thought. Now, however, the bustle and excitement come to an end.

The first feelings which come to the newly-made wife are those of strangeness. She scarce can realize the great

change that has come over her life. She is wearied with all the excitement, and yet almost hysterical with the new surroundings in which she finds herself placed. A feeling of dread comes over her, and she holds her heart to stop its fluttering. She is homesick for the friends from whose lives she has passed. One moment she would give the world to be back from whence she has come; the next she feels that nothing could induce her to change her present situation and relations. One moment she thinks she would like to fly with her husband to the furthest part of the earth; the next she is oppressed with the very thought of tearing herself away from familiar surroundings. All these contradictory emotions are the natural sequence of nervous excitement, and will soon pass away. She will soon become accustomed to her surroundings, and begin to fully realize what her new life holds in store for her.

She will soon be made to comprehend that her whole social life is changed. Hitherto all her relations were those of birth. Now she has added those of choice. The old natural relations are overwhelmed in the new. To a great extent the new relations will supersede the old. At first all her social relations will center in the one — wife. She will forget that she is a daughter or sister, and remember only that she is a wife. She will forget that she has parents and brothers and sisters, and remember only that she has a husband. He will be all in all to her. It is a delightful absorption. If she be happy in her choice, this feeling of union with and absorption in one being will hold sway over her life until a newer, higher and holier comes to share it.

Other relations will come to her notice by and by. She will find her husband's family is her family, his friends are her friends. These things will come to her as a matter of course. They will not disturb her. She is conscious in every life added to the circle of social experience, that it comes in and through her husband. She is a member of her husband's family only because she is his wife; she accepts the friends and friendships of her husband because they come through her husband's relation to herself. And so it will be all through her new life. Between her and all outside persons and things stands the one being whom she loves and trusts. Whatever comes to her through him she will gladly accept. When children are born to her, she will love them not a little because they are her husband's children as well as her own. The past will fade farther and farther; the present will grow dearer and dearer; the future will grow brighter and more hopeful. Happy wife!

The Marriage Chamber.

A bed-chamber should always, if possible, be on the second floor of the home. It should also have a southern exposure. The advantage of this is, that during the day the sun can have full and free access to the room, drying and purifying it and its contents. There is greater advantage in this location than is generally credited. A room upon the north side of the house cannot have the direct rays of the sun, and is likely to have damp and musty walls. Ventilation cannot be had so satisfactorily in a

room on this side, and hence all articles in the room are likely to partake of more or less of dampness and consequent unhealthiness. Many articles of furniture, especially carpets, absorb and retain disease-germs, which are propagated. The heat and light of the sun's rays would destroy these, if permitted to fall upon the carpets and upholstered furniture.

On the other hand, if the room be upon the south side, where the direct rays of the sun may fall with all their strength, the walls will be thoroughly dried. The heat will be diffused throughout the entire room, and carpets, curtains and all other articles in the room will be purified thereby. There is a double power in the light and heat of the sun's rays. It gives life and destroys life. It kills all those lower orders of life, which are such fruitful sources of disease, and it revivifies the life in the higher orders of the animal kingdom.

The model bed-chamber should be large and airy. A plentiful supply of pure air is one of the essentials of continued health. Unless the ventilation be adequate, in a surprisingly short time the air of the chamber will become poisoned by the exhalations from the body through the lungs and pores of the skin. The length of time in which a person in ordinary health would survive in an air-tight room has been calculated with some accuracy. At every inspiration a certain amount of the oxygen of the air would be absorbed, and at every expiration so much carbonic acid gas expelled. This gas is deadly poisonous. It is discharged from the lungs of an adult at the rate of fifteen cubic

fee tin twenty-four hours. If the air breathed be impregnated with this gas in the proportion of one cubic foot of gas to twenty feet of air, it is fatal to human life. The size of the room can easily be computed, and the time in which the air would become too impure for even life itself can easily and readily be determined. It will be much less than that arrived at by the above figures, because these only consider the exhalations through the nostrils, whereas through the pores of the skin, the insensible respiration, the poisoning goes on all the time.

The necessity of having an abundance of fresh air in all living-rooms is thus seen to be great. It is much more so in sleeping-rooms than in others. When the body is in a state of unconscious repose, it has least power to resist the evil influences which may invest it. A man may remain for hours without injury in conditions which would give a severe cold, should he fall asleep for but a few minutes. The same will hold good when applied to susceptibility to all forms of disease.

All that has hitherto been said of the conditions of the sleeping-chamber applies to any one and in all circumstances. It is emphasized when applied to those entering upon the new and extraordinary conditions of married life. There is always more or less excitement of the nervous sensibilities of newly married people. This carries with it a lessening of the ability to resist the influences of external surroundings. If these be evil, the system is liable to become an easy victim to invading disease. The marriage-chamber should be upon the upper

floor of the house, not only for the general reasons hereinbefore stated, but for the additional one of greater privacy. This privacy tends to lessen the feeling of embarrassment resulting from the peculiar concomitants of the new social relation.

The exercise of the privilege of the husband and wife to occupy the same room and the same bed for the first time, in obedience to well-established custom, should ever be attended with a proper reserve. Modesty is a crowning beauty in woman, and such an epoch in her life as marriage brings, puts this grace to the severest test. A decent regard for this quality in her, and a sense of propriety, alike demand that all her surroundings at this period should be such as to cause the least excitement and give the greatest ease.

The Bed.

No part of the entire household economy and the appurtenances of living claim a greater attention than the sleeping-couch. Fully one-third of the life is spent in bed. Rest and sleep are Nature's mode of restoring wasted energies and recuperating the exhausted vitality. Without such periods of constant recuperation, the powers would soon languish, the health would fail, life itself would succumb to the drain upon the system. Every action performed, every movement made, every thought that flashes through the mind, every emotion that stirs the soul, produces a waste of tissue. The repair is largely made during sleep. And as sleep is best taken when the

body is extended prone upon the couch, the importance of having this couch such as best conduces to comfort and health is apparent.

The constituents of a good bed, that is, one that subserves the dual purpose of comfort and healthfulness, is a matter of some difference of opinion. It was thought, until within recent years, that no bed could be comfortable unless it were composed of feathers, or down. Such an opinion is not now held extensively. Experience has demonstrated that feather-beds are neither so comfortable nor so healthful as mattresses made of hair and wool, or, better still, of hair and cotton-wool mixed. A bed of such composition requires care. The mattress should be opened at least once a year and thoroughly aired. It should be exposed to the sun, also, which serves to thoroughly renovate it. If this airing and sunning be not attended to, the mattress becomes thoroughly saturated with exhalations of the body, in the insensible respiration before alluded to, and, consequently, is a seat of disease. The bed should always be dry and warm. A cold bed is necessarily a damp bed. The moisture from the body and from the atmosphere of the room is condensed upon the surface of the bed. A damp room will soon become musty. The person sleeping in such a bed and room, not only becomes debilitated by the loss of animal heat, but is poisoned by the inhalations of the musty, germ-laden air which he is forced to breathe during sleep. In addition, there is a loss of vitality constantly going on, which, in time, will tell seriously on the health of the sleeper.

Beds and bed-coverings should be aired every day. If they can be exposed to the sun, so much the better. But the sunning is not always practicable; the airing is. By this daily renovation the unhealthy accumulations from the body during the night are mostly removed. It is the excellent custom of the Italians to leave the bed and bedding exposed to the air and sun during the entire day. The bed-coverings should be composed of porous materials. If this be not the case, the breathing through the pores of the skin are as effectually prevented as breathing through the lungs would be if the mouth and nostrils should be covered with some non-porous fabric. The moisture excreted through the pores, which is larger than is generally supposed, finds more ready escape where the covering is composed of porous materials. Woolen blankets are well adapted to this end.

The main objection made by sanitarians to feather beds is, that they have a readiness in absorbing and a tenacity in retaining the poisonous exhalations from the body of the sleeper. Notwithstanding all that has been said against the use of such beds, the fact remains that they are still used extensively. Probably they always will be. If the evil cannot be abated, it may be mitigated. So, then, if feather beds be used, care should be taken that they be aired every day for several hours and thoroughly renovated at least every half-year.

It may be advice wasted in this age of small families and no desire for increase, to say that respectable authority affirms that mattresses made of sponge enhance the

possibilities of marital fruitfulness. Hemlock boughs used in the bed are said to conduce to the same end. It has been noted, that families living in the neighborhood of cone-bearing forests are more inclined to be prolific than those living elsewhere. It is not asserted that either of the suggestions here offered is a specific for barrenness. That is quite another matter. But there are some degrees of barrenness which are readily cured; and for these, the suggestions made above may be valuable.

Marital Relations and Privileges.

The relation of husband and wife is the oldest, the strongest, the most intimate, and the most enduring known to earth. The oldest, because it was established by the Creator Himself at the dawn of the world's life, in the paradise of primal habitation; the strongest, because it binds each party to the other in bonds which cannot be severed save by death or crime; the most intimate, because they twain shall be one flesh; the most enduring, because for this cause shall a man leave parents and home and friends, and shall cleave unto his wife; her life shall be his life, her lot shall be his lot, and nothing but death shall part them.

It is the first relation because it stands before, and is the source of all other relations. Before parent and child, comes husband and wife; before brother and sister and all the varied degrees of consanguinity, stands husband and wife, to whom all must look for their origin. When the Divine teacher would inform his pupils that the rela-

tions of this life do not obtain in the eternal world, it was only necessary for him to say that "in the resurrection they do neither marry nor are given in marriage." The conclusion followed irresistibly. Take this relation away, all others go with it.

The union of one man with one woman in the marriage bonds is the establishment of a relationship founded in natural affinity. In the fundamental organization of their physical natures and the mutual adaptation of their material structure to an objective end, is found conclusive demonstration that they are intended for each other. They are the complements each of the other. In the natural economy each enacts a part, co-ordinate and not sub-ordinate, each the auxiliary of the other. They are imperfect in separation, perfect in union. Apart from each other, neither is adapted for fulfilling the essential ends of being; conjoined, the great end and purpose of nature is in condition to be subserved. A celebrated divine has said: "Had God intended woman to be the master of man, he would have taken her from his head. Had he intended to make her his slave, he would have drawn her from his foot. But, drawing her from his side, he made her the companion and equal of man."

In entering into and establishing this relation, the maiden becomes the wife. She enters upon a new sphere of being, at once the sweetest, the most tender and the most natural. The fundamental principle of the marital relation is the transmission of life and the propagation of the species. Such a purpose is necessary to the purpet-

uation of the race. Death would soon exterminate the human family if there were no provision to supply the places of those cut off. In subservience of this supreme end, the wife must enact a principal part. Her body is the receptacle of the life-germ, and her vitality must be laid under tribute to its vitalization and development. It is important that she be imbued with a knowledge of the part she is to take, and to be conscious of the extent of the responsibility under which she must rest. Ignorant of the great mysteries of being in its inception and propagation, she may rush blindly into the assumption of responsibilities with a haste that may be fatal to her own happiness and well-being, and equally inimical to the welfare of society of which she is a part.

The maiden-wife comes to the arms of her husband weighed down with an embarrassment which only time and familiarity can dispel. All the ceremonies leading up to the time when she finds herself alone in the bridal chamber with him to whom her life is now joined, have a tendency to excite, as well as to weary, her nervous system. She must become accustomed to the new relation, the new surroundings, and her nervous system should be soothed into quiet.

If the wife have observed the rules laid down in another part of this work, on the " proper characteristics of a good husband," she will have nothing to complain of nor fear. Love and kindness, predominating in the heart of the husband, will restrain all impetuosity. He will prove himself the stronger and the wiser. Looking forward to a

long life of happiness, he will be loth to impair the fair prospect. Thoughtful and careful of the loved being who is now all his own, he will remember that she is his to love and to cherish. She is his wife, not his mistress. His care is to make her happy. His highest wish is to relieve her distress. So thinking and so desiring, he will study to be patient and forbearing, loving and helpful.

Many a newly-formed family has had its happiness placed in jeopardy by the application of an unwarranted test of virginity. From ancient times has come down the affirmation that the night-robe of the wife should show the evidence of primary condition. Such a mark establishes nothing, either by its presence or its absence. It does not always attend the loss of maidenhood, and it may be found where widows are re-married, and even with wives who have been long separated from their husbands. The temperament of the wife has much to do with the external sequences of the marriage-bed. Temperament exercises a marked influence over the muscles and tissues of the body, as well as over every variety and kind of discharges from it. The tissues of the lymphatic and pale blondes are softer and more relaxed than those of brunettes; the former are more troubled with weakness, and, consequently, suffer less pain in the exercise of any of the functions of the body than brunettes. General constitutional disturbances and disorders of the nervous system are apt to follow the enjoyment of the new relations of wife. Care, prudence and moderation should be exercised in the marital relations at the first. Imprudence and excess

are liable to lay the foundations for much pain and suffering in the future.

To the wife it may be said that a congenial and exclusive soul-union is the great object desired in entering into the marriage relation. Such congeniality and exclusiveness is the basis of her happiness and the foundation upon which her family must be reared. Domestic order rests upon it, and prosperity and happiness flow from it. With it existing in full strength, other domestic virtues will not be wanting. Connubial fidelity is mutually enjoined by the highest authority, and is involved in the very nature of the relation itself. Any departure from the strictest fidelity to marital obligations is repulsive to the right reason, and interdicted by the sternest maledictions of divine law. The husband and wife are to be all and all to each other. The chastity which restrained each before marriage, should now bind each with a stronger obligation. Unchastity now on the part of either is a graver crime than before. It has a sterner term applied to it, a severer penalty attached in both divine and human law.

Conjugal faithfulness, however, is not the only virtue comprehended in the marriage covenant and relation. There should be reciprocity of affection. One wish, one aim and one desire should animate husband and wife. The husband should look to his wife as the supreme light, joy and solicitude of his life. The wife should look to her husband as the lord of her life and the master of her affections. Deep, abiding reverence, each for the other, should dominate the hearts of both. The all-absorbing

desire of each should be the happiness of both. The germination of life and the propagation of the species is not the only end to be attained by the union of one man and one woman. It contemplates the union of two souls, the commingling of two complementary natures, and the coöperation of both to their mutual happiness and moral perfection.

It is essential that conjugal love should be more of the soul than of the body. Sensual love is shallow and transitory. It wastes itself in its gratification. The love that should bind husband and wife together in perpetual harmony must find its seat in the depths of the soul. It passes beyond and beneath the mere passion of animal desire, and satisfies itself only in the respect, confidence, reverence and trust which each spouse reposes in the other.

Proper and Improper Sexual Indulgences.

Marriage, like every other relation, while it gives certain rights, also enjoins peculiar duties. The whole animal kingdom is found in pairs and adapted to the propagation each of its kind. The beginning of human life, according to divine revelation, was in the creation of two beings of opposite sex. No other provision was made for the increase of the race save that which inhered in the constitutions of these two beings. In their physical organisms were implanted the germs and organs necessary in the propagation of their species.

The order of life-production is easily traced. The

primary germ of the new being is contained in the procreative organs of the adult male and female. These complementary organs must be brought in close proximity. The principle of affinity unites them in the uterus of the female, which is adapted to the growth and development of the life-germ. The union of the initial germs of a new life are superinduced through the act of coition. This act is followed by lassitude and fatigue, and in this state may be found a suggestion as to the limitation which should be placed upon its frequency. The specific effect of coition upon the whole animal economy is debilitating. It is a drain upon the vital forces. One does not need to look far to see wan women and pale babes, nor need he search far for the cause of both. It is the duty of women, and especially and peculiarly that of men, to transmit the very best of themselves to their offspring. This they cannot do, if, by too frequent coition, they weaken their own vital force. The great death rate among children, so much greater than that among almost any species of lower animals is an appalling evidence of the prostitution of marriage. A reasonable regard for the improvement of the race, for the preservation of personal health and beauty, urges upon persons in the married state to be prudent and temperate in all things.

Among domesticated animals, except in rare instances, the female never admits the male in sexual commerce except for the purpose of procreation. Among some of the wilder savage tribes the same rule is said to prevail. It remains for the people of the highest civilization and

intellectual and moral development to hold, teach, and practice that sexual commerce between man and wife may be had at any and all times when desire or passion may prompt to the act. The reasons advanced in support of this teaching and practice may be briefly stated.

It is held by some that sexual indulgence is a physiological necessity to the man, but not to the woman. If this be true, it shows a remarkable defect in the wisdom of the Being who made both. It would be a manifest impropriety to create one sex with a propensity, a necessary craving which could be met, save at the expense of the other. Revelation and nature alike teach that there exists a most perfect harmony in the universe. It would be an astonishing anomaly to find in the highest of the Creator's works such an incongruity as a necessity without the means of meeting it.

By others it is held that the act of coition is a love relation, mutually demanded and enjoyed. It is a purely love-act, the emblem and fruition of love itself. It should never be engaged in except when there is mutual participation, and should be so guarded and governed as to control the creative power. It is claimed that sexual commerce in lawful relations is the supremacy and essence of love itself. By it there is a mutual exchange of those subtle elements which give health and vigor of both husband and wife, and more firmly cement the union between them. If the practice of married people were in strict conformity to the rule laid down, the desires and demands of the husband would be no more frequent than those of

the wife. Further, that it is not possible for the husband to sustain this relation satisfactorily and without injury unless there be reciprocation on the part of the wife. Under this mutual relation there is no loss to either, but a mutual compensation. What each gives off in the sexual act is received by the other; that is to say, the loss of vital force of the husband is no more than the force he receives from the wife, and *vice versa*.

This would furnish a sufficiently safe rule for the government of sexual desire, if the appetite were not depraved through a cultivated abuse. Herein lies its chief difficulty. When marriage is generally consummated, both parties are in youth and health. They are in new relations. The moral right of gratification and the opportunity for the same seem to warrant excess. No apparent injury results. And so the excess is continued until an abnormal appetite is created. In this condition, the application of the rule is attended with extreme difficulty.

A third theory for the regulation of this privilege is that sexual commerce should never be indulged except where there is the intent of procreation. It has many advocates, and is certainly more in harmony with the general laws of nature as observed to obtain among the lower animal creation. In advocacy of this theory, it is urged that the procreative organs were given for that end. It is an end that transcends that of mere animal gratification. In opposition to the assertion that the nature of man requires that at intervals the life-giving element should be given off, it is claimed that its retention in the system is highly

beneficial. By some mysterious process of the system, it is absorbed and diffused throughout the entire organism, replacing waste and revivifying the whole system in a peculiar manner. It is taken up by the brain and coined into new thought, perhaps new inventions, and grand conceptions, or into new and fresh impulses of kindness, joy and beneficence to all around. It is a procreation on moral and spiritual, instead of on physical planes. It is as really a part of the generative functions as the begetting of offspring. Many eminent examples are cited of men who have made grand achievements in the fields of science, philosophy, invention, religion and philanthropy, whose lives have been spent in accordance with this theory, as Plato, Newton, Irving, Whittier.

To woman belongs the creative power, and to her should be delegated the choice when a new life is to be evolved. It is only by adhering to this law that she is able to fulfill in highest perfection the great function of her being — the function of maternity. Mrs. Chandler, in her pamphlet, "Motherhood," says: "Every mother, from the hour when the new life commences, is overshadowed by the Most High, and, could she understand her needs and powers, and secure to herself respect due her sacred office, and, free from all polluting intrusion upon herself, bathe her spirit in the influxes which the life within attracts, very rapidly would disappear the loathsome deformities, the discordant spirits now blotting the fair proportions of humanity." She supports this assertion by quoting from the sacred account of the incarnation of the child Jesus; for the declaration is that

Joseph "knew not" Mary from the time of the annunciation of the inception of the new life until the child was born. In this is involved a more profound and important meaning than the Christian world or the medical profession has yet discovered. This "undisturbed maternity" which obtained in the ushering into the world of the Prince of Peace, is equally in all cases an indispensable necessity for the higher development of humanity. Motherhood is a shrine which should be kept sacred from one touch of selfishness or lust. "O, Woman! This would be thy recompense for all the suffering and agonies which pertain to physical womanhood and motherhood."

This theory has the support of many men and women high in authority, and the example of all the lower animal kingdom, where the female reserves to herself the right to control her procreative functions. In the exercise of this right she is left undisturbed by the male. There is, however, no well-established reason in nature for incontinence during the period of gestation. The weight and preponderance of the argument, however, is that the mother should be exempted from sexual relations during that period. Toward this end the truly tender and thoughtful husband should be ready to lend his aid. He should be mindful of the additional care and responsibility which rests upon his wife during gestation, and seek to relieve her burdens to the utmost of loving care. Her interests and those of the unborn child depend very largely upon her husbanding all her resources of strength and nervous force. She must do this in order to maintain

her own health in the trying time of birth, and to bestow upon her child that vitality which will insure it a perfect health and development. Dr. Stockham truly says: "No one means will more greatly palliate the many nervous symptoms of pregnancy than by observing the law of continence."

Physical and Moral Effects of Excess.

It is within justifiable limits to say that with newly-married couples excessive sexual indulgence is the rule. In many instances the results are most unhappy. Such excess is a prostitution of the clearly-established functions of the marriage relation. More than this, it not infrequently creates a repugnance in the wife, not only for the act itself, but, it is to be feared, for the husband. The latter statement may be too strong; it will at least suffer nothing of truth if modified to the extent that such excess often leads to a loosening of the very foundations of affection in the hearts of both husband and wife. Out of this may, and often has, grown estrangement and infidelity.

Sometimes the young husband inflicts upon the newly-made wife, whom he has so recently pledged himself to cherish and protect, very grave physical injuries from which long years of the most skillful treatment may not entirely free her. A case in point may not be amiss: It is that of a young woman, apparently blessed with all the charms of youth, beauty and health. She was wooed, won and eventually married to a young man who had

lost a former wife by death. Immediately subsequent to the marriage, the pair started on the conventional wedding tour, which, in this instance, lasted only a fortnight. At the end of this time they returned home, but, alas, the young wife was a hopeless imbecile — a victim to her husband's unrestrained impetuosity. It was a sad case, but unhappily not the only one on record of a similar kind. Instances are not so rare of young women who come to the altar blooming brides, enjoying excellent health, free from any disease, and return from their honeymoon pale, feeble shadows of their former selves, and doomed to a life of suffering — all through the prostitution of the presumed functions of the married relation. Why, it may be asked, does not woman assert her rights, and refuse to become a mere machine for the gratification of a man's passion? The answer is not difficult, nor need far search be made to find it. It is because most women, when they enter the married state, have but a faint conception of what they are there to encounter. It may be virtue, or chastity, or modesty, or mere prudery — it matters little by what name it is called — but the fact remains that the large majority, even of the most intelligent young women, go to a husband's arms with little or no knowledge of the meaning of sex. They have a certain knowledge that they are to marry a man, and that a man is a being different from themselves in certain regards. They may even have advanced so far in knowledge as to be able to realize that they are to wed one whose sex is complementary of their own, and from this

difference and complemence certain processes in nature can and must be evolved. But her knowledge is as vague and indefinite as the language in which it is here stated. Of the male nature, its propensities, its passions, its strength and its weakness, she knows no more than she did of herself when nature ushered her, all unprepared, from childhood into maidenhood. All this is sad enough to relate. It is sadder still to have to say that with this ignorance generally there is coupled an indifference. She does not know, and she does not care to know. Any attempt to inform her is received coldly if not with repulsion. Her modesty is shocked that she be called upon to investigate such a thing. There is time enough, she says in effect, to know all this when it is right to know it.

And so the poor, innocent girl goes as a lamb to the slaughter. She comes to her husband in virgin purity and innocence. This is well, if innocence be not another name for ignorance, as it frequently is. Modesty is a virtue which is a crown of glory to every woman. But there is no offense to modesty when knowledge of the utmost importance is gleaned. A woman owes it to herself, her health, her husband, her children, to society, that she should be intelligently informed, before it is too late to benefit by the knowledge, what is for her own good.

The basic principle in the married relation is love. The basis of genuine, lasting love is respect. Any act or any succession of acts which tends to undermine this respect, and, of course, this love, is to be frowned upon. Sexual

excess comes in this category of condemnable acts, and for the reasons stated. Such excess is no proper constituent of true love. It is mere sensuality, a passion which has for its components the base qualities of moral depravity. Genuine love is formed of purer and higher elements than those which enter into sensual gratification. Lust digs the grave of love and indulgence buries it. Marriage, it is falsely said, is the tomb of love. Such an epigram could only have its birth in the heart and be voiced by the lips of one who knew naught of the sources of genuine affection. If love be only another name for sensual pleasure, then may the truth of this unholy thought be allowed.

This is not the truth. Connubial love may exist, and wedded happiness bloom brightly even where there is no sexual commerce. Its purer delights may be enjoyed without the grosser pleasures. These, indeed, are necessary in the fulfillment of one great end of marriage, namely, the propagation of the species, but they are not essential, absolutely, to either the health or the happiness of either the man or the woman. Happy, indeed, the man who has so disciplined his desires that they may be controlled within proper physiological bounds, and may, if necessity so counsel, be controlled altogether.

The statements here made will not find ready acceptance with those who have practiced differently. The conclusions are a condemnation of themselves. But there are thousands of men and women who will cordially approve, and from their own experience draw out testimony in corroboration.

There are wives, thousands of them, who to-day are victims to unbridled lust. It is none the less lust because protected by the legal authority of marriage. Their lives are made miserable because their husbands are brutally indifferent to the higher claims — moderation and temperance. A respected writer says that " from a physiological as well as from a moral standpoint, a sexual congress in which the wife is an unwilling and passive instrument, is no better than an act of masturbation." The language is strong, but undeniably true. Sexual excess lays the foundation for domestic infelicity. Banish lust from the marriage-bed. Bind down the passions to the severe rules of common sense, reason, and physiological law, and half the evils of married life will disappear.

Painful Congress.

The human body is endowed with certain senses and functions. The primary plan contemplates that in the use of the one and the exercise of the other, there should be excited pleasurable emotions. Through sight the soul is stirred with the motion of the beautiful in form, color, etc. Through the sense of hearing comes the pleasurable emotion excited by melodious sounds. And so with taste, touch, smell, etc. This is the natural state. It is an integral part of the primal plan of the Divine Architect. Where pleasurable emotions are not stirred, it is evidence of a diseased condition of the organ through which the sense operates.

The proposition stated above is emphatically true in

the case of the exercise of the procreative functions. There never should be any pain experienced by the wife, after the first two or three approaches, in the copulative act. It not infrequently happens, however, that there is not only the absence of all enjoyment, but the coitive act is attended with positive pain to her. When such is the case, it is proof positive that there is some derangement of her procreative organs, and an investigation into the cause should be made at once.

This derangement may partake of the nature of a diseased condition of some of the parts. If, for example, there should exist, from some imprudency, a displacement of the womb, an ulcerated condition of its neck or mouth, or any inflammation of the parts, the sexual commerce would most likely be attended with inconvenience. Such pain, however, is more generally traceable to diseases of the ovaries. If from any cause these be irritable or inflamed, the excitement of them consequent upon the venereal act would increase the irritation, and be painful instead of pleasurable. The condition is similar to that in the operation of other organs of the body. When the health is good and the action of the stomach free and full, food may be passed into it with impunity. But if it have lost its power to free action through excessive gormandizing or from any other cause, every contribution to it is accompanied with suffering.

It very frequently happens that the abuse of the procreative organs by excessive indulgence or pregnancies will produce such a condition of the vagina and uterus as

to make all coition unenjoyable. If there be no real pain felt during the act, it is probable that continence for a season will restore the organs to the normal condition. But if there be pain at every approach, accompanied with great nervous disturbance, it is an evidence of disease. A physician should be consulted at once. Until he has passed judgment, there should be no commerce whatever. The most painful of all complaints are of venereal origin. Too much care cannot be given to guard against all approaches of disease in these organs, nor can the case be attended too quickly when derangement has actually taken place. The general principle in the whole matter is that in health the act of coition is pleasurable. If it is not so, there is some disease.

Offspring.

A prime purpose contemplated in marriage is the production of children. This is evident from the very nature of sex, from the necessities of the case, and from the divine law appointing and sanctioning marriage. It is not that one man and one woman may be made more happy in each other and better fitted for enjoying the pleasures of being that marriage was instituted. These certainly are ends attained by marriage, and properly belong to it. But it has an ulterior end. Self and self-gratification is not the end of life. The peopling of the earth and the perpetuation of the race are ends residing in and proceeding from the marriage relation. It is the way instituted by the great Lawgiver for properly, wisely and safely consummating His purpose concerning the earth and man

In creation, He established the family and appointed its duties. This institution has been projected through all the succeeding ages, and is a permanent element of society to-day. The notion of family is not fully exemplified in husband and wife. It is wider and more comprehensive. It includes the procreation of new beings. A family is imperfect, incomplete, if it do not include children. It is not only a privilege, but a clearly-incurred duty of marriage, that it should contemplate the begetting and rearing of new lives. It is essential to the well-being of society that such duty be accepted and discharged, unless there be insurmountable obstacles in the way. What is duty and law for one husband and wife is law and duty for every such family. If one family can ignore this duty and responsibility, all families can. This, if practiced, would mean the destruction of society and the extinction of the race.

It is rare, indeed, that a marriage is made in which both contracting parties do not contemplate the rearing of children. The instincts of paternity and maternity inhere in the constitutions of men and women. Parental love is an ingredient of the emotional natures of all. Conjugal affection is sweet, profound and absorbing. But there are depths of the soul to which it does not and cannot reach. There are profundities of natural affection which the most absorbing marital passion cannot fathom. There is an unformulated consciousness of this in the heart of every husband and wife. However tender their mutual affection may be, they are both conscious of a lack ; something i

wanting to completeness of union and love. There are yearnings in the heart which do not find satiety in any token of affection, given or received. However happy and contented each may be in the other, there is ever present a feeling that there is a cup of blessing from which they have not drunk.

In most cases, perhaps, the expectation of offspring in the immediate post-marital life is not great. Most new families prefer that they should live in each other for a time. They do not wish to be compelled to assume the duties and responsibilities of parents at once. They have youth and youthful inclinations, and they do not desire that these should be cut short by the demands of parentage. While this is admittedly true, and not censured as wrong, it also remains true that few, very few, husbands and wives there are who do not look forward to the time when they shall have children in their homes. It was a part of the prospect of married life as viewed from afar. As they came nearer and nearer to it, the background with its little ones drew nearer also, and brighter and more inviting. After the new family is instituted and the new home set up, the vision comes still nearer, until it becomes a reality. No more bitter sorrow can come to the heart of a true and loving wife than to be told that she can never become a mother. No more serious weight can fall upon the heart of a husband than to be made to know that he can never become a father. No greater sadness can fall upon a home than the consciousness that it must ever remain without children in it.

Children are, to a home, a blessing greater than all other blessings besides. Mrs. Oliphant has truly said that "there is nothing in all the world so blessed or so sweet as the heritage of children." They are the light and warmth of the home. A house without a child is like a lawn without a flower, a woman without the charms of womanhood. They are as the sunlight to the home whose cheerful rays brighten the gloom which trials and reverses scatter along life's way. The cares and sorrows which attach themselves to all earthly conditions are mellowed and tempered by the happy faces and merry voices of children. There is no more gloomy spot on earth than that home where old age has come to husband and wife, and which is unblessed of the presence of children.

Children bring care and trouble into the home; they disturb its harmony, break up its quiet, scatter to the winds many of its carefully-observed rules. But they bring more than they destroy. To the mother they bring a joy and sereneness of bliss which cannot be described or measured. There is a depth and satisfaction to a father's regard for his children which no other feeling can approach. It is a mistaken notion of society that a mother's love is deeper or stronger than a father's. Maternal love is more passionate, but no profounder than paternal. It is quicker to feel, but not longer to endure. Maternal and paternal affection are not different in kind, nor do they vary greatly in degree.

Aside from awakening deeper emotions of the soul, and reaching springs of delight untouched before, children are

a blessing in more practical ways. They cement the home affections. They bind parents closer to domestic duties, social observances, moral obligations, and commercial endeavors. Many a father has been saved from ruin by the thought of his children. Many a mother has been carried safely through a temptation by the knowledge that she had her children. Idleness, sloth, indifference and impecuniosity have often been driven out of the lives of men and women by the responsibilities of parentage. Bad men have been made good, and good men better by their children. Negligent habits have been abandoned by the knowledge that the children might be injured thereby. Fortunes have been retrieved by the necessity of making provision for the children of the home.

Children are the very deities of the home. They are its life, its brightness, its inspiration. In them and around them center the fondest hopes, the most ardent desires, the most laudable ambitions which can animate human hearts. They draw husband and wife nearer together. They are potent factors in quelling discord and smothering it unborn in the heart. They teach patience, forbearance, kindness, sobriety, diligence, veracity, and all the nobler virtues of human life and character. They are the conservators of purity and chastity in speech and behavior. They inspire the purest and highest motives, and lead to the wisest and most prudent actions. They are the light and joy, the happiness and bliss, the virtue and peace, of marital life. Without them the home is barren, shorn of half its realities.

Should Offspring be Limited?

This question is of vital importance. It involves the counsel and will of the Almighty as embraced in the edict, "Be ye fruitful and multiply"—an edict that has not yet lost its significance. It involves, on the other hand, issues commensurate with the physical well-being of humanity. Instinct and propensity impel all nature, animate and inanimate, to cheerful obedience to the divine authority. The seeds and germs of plants are wafted by every breeze, solely for the propagation and enlargement of their kind. Trees, plants and flowers are perpetuated to an incalculable degree through the operations of natural laws.

An impulse, similar to that in plants and flowers, inheres in the constitution of human beings. Logically, it would seem to follow that they should obey it, and propagate to the utmost of their ability. This is a result, however, which is reached by a superficial view of the subject. To arrive at a full solution, the matter must be probed to its uttermost depths, and viewed in all its aspects and phases. Other questions arise besides those of the mere dissemination of life. The probable outlook for healthful development must be considered in connection with the laws of germination. This is true in the vegetable kingdom. It is true that a handful of seed placed in incongenial soil will germinate, spring up, and grow after a manner. But it is only after a manner. If the conditions essential to full development be lacking,

the resultant plants will show feeble constitution, scant foliage and barrenness. They cannot possibly reach that state of vigorous growth in which the prime object can be fulfilled. They feed upon each other in the germinating soil, and obstruct and oppress each other in their expanding growth.

What is true in the vegetable kingdom is equally a law in the animal. Every observing stock-raiser is cognizant of the evil effects of over-production among his animals. There is deterioration in vigor, size, symmetry and every quality of desirable excellence. He knows that he must limit the production of his flocks within healthful bounds. The possibilities of augmentation are not the rules by which increase is governed. There is no profit in allowing every beast to bear of its kind to the utmost of its capacity for so doing. On the contrary, such a course is suicidal.

Man is an animal. He conforms to his animal nature and instincts, to the same laws and limitations which obtain among the lower orders of the kingdom. Fertility and capacity do not and should not be the guides in procreation. He must act with a prudent regard to the physical ends of his race. A higher development, a progression, not a degradation, in the quality of being must be kept in view. Not alone for the immediate, but also for the remote future. If feeble and debilitated children be born, they in turn will become progenitors of still more feeble and more degenerate children. The end is not far off after such degeneration has once begun. Even under

favorable conditions the tendency is downward. It requires care and the exercise of right reason to maintain the standard of present development.

While man is an animal, he is more than an animal. He is gifted with intelligence, reason and forethought. To his government is committed the whole creation. It is his manifest duty to see that nature's laws and provisions with regard to the continued strength and soundness of the vegetable and lower animal kingdom shall be maintained.

He is gifted with intelligence and government for this purpose. If this be so as regards the lower orders of creation, it cannot be that he is privileged to forget himself and his kind. Rather, there is laid upon him a stronger reason for the exercise of his exalted powers here. As the race of men surpasses, in the scale of being, that of brutes and plants, so should the considerations for the maintenance of this superiority weigh upon him. And as his reason and experience tell him that in plants and among brutes there must be bounds set to procreation, so do they also inform him of a similar restriction and limitation of his own kind. Herein is a generic reason for the restraint which should be placed upon the exercise of the procreative functions.

There are other reasons worthy of consideration which point to the same conclusion. They are subsidiary and subordinate, but important. If, after marriage, there appears to develop in one or both of the parents some transmissible disease, it is time to consider whether it were

not better that no more children be begotten. The disease in question may not have existed in the immediate ancestors of either parent, but it does clearly manifest itself in them and the children they have already begotten. Such children have been weak and puny, or they have come into life with the seeds of a fatal disease firmly and ineradicably imbedded in their systems. They have died almost as soon as they began to live. Is it wise, is it a duty, to bring any more children into the world when it is most conclusively apparent that they will meet a similar fate? On the contrary, is it not a manifest duty not to beget such children? Why are reason and foresight given to men if this be not a case for their exercise?

Who has not seen a case like this: A father in whose system is found the well-defined symptoms of that dread complaint, consumption. It is well known to physicians that venereal desire is keen in persons so afflicted. It was so in this case, and no restraint was placed upon its gratification. A child was born. It was weak, puny, and brought into life with it unmistakable indications that its existence would be brief. It, however, lived a few months, but never enjoyed a moment's comfort, suffering all the time. Looking upon a case like this, can any one say that it was not wrong to humanity for that father to beget the child?

There is reason for the limitation of offspring. There are women to whom gestation is simply torture. From the time of conception, or soon thereafter, until delivery, they are in almost unendurable misery. There are others

to whom child-birth and its precedent trials are almost certain to prove fatal. Such physiological conditions cannot be known before marriage, and, therefore, cannot be provided against by a life of celibacy. To ask such a woman to undertake motherhood, is simply to ask her to essay martyrdom. Is there any law, any right interpretation of duty, which will warrant asking the sacrifice? Is there any moral difference in the act of a married woman, who, finding herself unable to bear children with safety to herself and her children, refuses to sacrifice herself, and that of another woman who, so far as she knows, is well-qualified for maternity, but who refuses to enter the married state because it implies an assumption of the obligations to become a mother? Despite the flippant paragraphs which float about in the columns of transient publications, there are many women in this country who have refused, and do refuse, to become wives for this reason alone.

It is common in these times to condemn intemperance in drink. This is proper and right. Intemperance or undue indulgence of any appetite or appetency, merits condemnation, both by the law of God and that of reason. By the same token, intemperance in procreation should not be allowed to merit approval, as it generally does. There is such a thing as intemperance in begetting children. It does not always receive its right name. In very many cases it is nothing more or less than the indulgence of lust under the cover of marriage. Marriage does not contemplate nor warrant any such license. It is for necessary and righteous uses, not for the legalization of moral iniquity. Continence within temperate bounds is a virtue as

binding upon the life within as that without the married relation. Whenever and wherever incontinence may exist, it is a moral crime, whatever custom, law, or society may have to say about it.

One of the legitimate tendencies of immoderate indulgence in sexual commerce, is the use of criminal means to prevent undesired issue. The foulest blot on the social life of the country is its indifference to the alarming prevalence and increase of the crime of abortion. Murder, under the form of fœticide, or infanticide, is so common, so flagrant, so well-known, and so tamely condemned, that it is sapping the foundations, smothering the conscience, and destroying the health of society. It is fashionable to murder unborn children. Conscienceless men openly advertise their services in the secret and safe consummation of this crime. Every device, decoy and deception is employed to lead women into the commission of it. And it is a fact too patent to be kept concealed, that the number of women who become victims to these rapacious harpies is not small. Many seek the abortionist to conceal a previous crime. Some, perhaps, through a false notion of economy; their family is already larger than their means warrant, and rather than see other children come into the world to endure the pangs and hardships of poverty, they will resort to this means of prevention. Whatever may be the underlying motive, the fact remains that fœticide and infanticide are the foulest of crimes against God and humanity, that they prevail to an alarming extent, that they are not regarded by society with the degree of

horror which their character demands, and that they are rapidly on the increase.

The problem with which we are confronted has evil on both sides. On one are the injuries resulting from excessive child-bearing; on the other, the criminal means employed to prevent this evil. Looking at the matter in this light, Dr. Raciborski, of Paris, took the position that the avoidance of offspring to a certain extent is not only legitimate, but to be recommended as a measure of public policy. "We know how bitterly we shall be attacked," he says, "for promulgating this doctrine, but if our services only render to society the benefit we expect of them, we shall have effaced from the list of crimes the one most atrocious without exception, that of child-murder, before or after birth, and we shall have poured a little happiness into the bosom of despairing families where poverty is alive to the knowledge that offspring can be born only to prostitution or mendacity. The realization of such hopes will console us under the attacks upon our doctrines."

The ground upon which the limitation of offspring has been generally urged is that a too-numerous increase is the effect of an immoderate sexual commerce; such excess is wrong in principle and injurious in practice, therefore, it should be discouraged. While this ground is undeniably proper, it is not the only one. Experience has shown that in many instances there are other grounds, high and philanthropic, upon which such limitation can be justifiably urged. Parents love their children, and center in their well-being the highest and holiest ambitions.

Their circumstances are moderate, perhaps, very humble. The struggle of life is a serious problem with them, even with the family they may have about them. Every additional child tends to increase the difficulties of making comfortable provision even for the present, while the future looms up dark and lowering. There is certainly nothing to be censured in the wish to have a limit placed upon the family in such circumstances. It is prompted by pure motives — by commendable, moral and economic reasons.

When the subject is examined in all its bearings, and the evils are considered which result from or are connected with an excessive production of offspring, the conclusion is forced that the reproductive functions of husband and wife should be under the control of the will. There is no divine law, and cannot be any human requirement founded on justice and reason, which will justify the appetite for immoderate sexual indulgence. On the contrary, every law of hygiene for both parents and children, conjoined with the highest humanitarian, philanthropic and affectionate motives, demands that the sexual desires should be held under a strict obedience to reason and well-being. The will should dominate here as in every appetite of the body. Urged on by their basest passions, men have been assiduous in seeking arguments to justify them in giving loose rein to appetite. The teachings of divine truth are distorted to give weight to an inclination which has no higher source than a disinclination to self-denial.

It is urged that the counsel oft-repeated, that men

should "multiply and increase," is a command that cannot be disregarded. This is urged, not out of intense respect for the divine will, but rather because it harmonizes exactly with the lustful passions which inflame them. The injunction of the Divine Lawgiver never should be made the grounds on which to justify gross self-indulgence. Such justification is a prostitution of the sacred word. It is "borrowing the livery of the court of heaven to serve the devil in."

The women who lived a half-century ago are sometimes pointed to as examples of what women can do. As pioneers in newly-opened territory, these women were compelled to endure much labor and material privation. Notwithstanding this, they were the progenitors of large families. It was the almost invariable rule that every little home was filled with a numerous progeny, and yet these women were strong, healthy and hardy, and the children grew up into fine specimens of physical manhood and womanhood. This (and much more in the same line) is often cited to prove that the women of to-day, with their families of two and three, and surrounded with all the comforts and conveniences of modern civilization, are derelict in their duty to society. The claim set up by these women, that they are incapable of bearing children, or at least of safely submitting to the labors of a large family, are thought to be unfounded. By every logical consideration, it is said, they should be able to excel their maternal ancestors.

In all this it is overlooked that the women of pioneer

life gave all the vigor, and that their children came into the world far inferior to their mothers in point of actual or reproductive ability. An exhausted vitality may not show itself in one generation ; it inevitably will in the next. Our women to-day, with their comparatively weak constitutions and vitality, owe their state to the folly of their ancestors. Had our grandmothers been less lavish, less prodigal of their strength, and more prudent and moderate in exercising their procreative function, society had been better to-day. That they were not, is a calamity that we must face. It will not help the case that the actual facts be denied. It will be no less a crime to posterity that it be made to suffer for our willful disregard of the conditions under which we exist, and our ignorance of the consequence which our disobedience to the plainest duty will certainly bring.

Wives should claim from their husbands a care and consideration equal at least to that which is given by successful stock-breeders to their herds. Every such stock-breeder knows that there is a law which regulates the production of superior animals, and he unswervingly adheres to it. He knows that it is destructive of his every interest to allow his animals to follow their own blind instincts in the reproduction of their kind. He controls this with an intelligent consideration for the good of his increase. An essential consideration in this is that the number of animals born by every female must be few. Is it not manifest that an equal discrimination should be shown by men in the reproduction of their own kind ?

Can man, as an animal, rise above the laws which obtain among all other animals? Assuredly not.

Dr. Sismondi says, that whenever it becomes unwise that the family should be further increased, justice and humanity require that the husband should impose upon himself the same restraint which governs the unmarried. A writer on this subject says: "The brute yields to his generative impulse whenever it is experienced. He is troubled by no compunctions about the mother. Now, a man ought not to act like a brute. He has reason to guide and control his appetites. They, however, forget and act like brutes instead of men. It would, in effect, prove very conducive to man's interests were the generative impulses placed absolutely under the domination of reason, chastity, forecast and judgment."

The citation of authorities is unnecessary in so plain a case as this. The right, propriety and necessity of placing a limit on the family must be conceded. What this limit should be, it is inadvisable to say. It is impossible to reduce it to figures in any number of cases. With some women, it may safely be said that the capacity for child-bearing is without limit. With others, the limit is reached with the first assumption of the maternal relations. No general rule can be laid down. It is enough that we be assured that it is eminently proper to have a limit. A knowledge of the wife's physical condition, the external considerations, and an intelligent regard to the general principles of health, comfort and the future, will be sufficient to guide in each case.

To What Extent Should Offspring Be Limited?

The right and propriety of limiting the number of children which shall compose the family being conceded, it naturally gives rise to an inquiry concerning this limit: Where shall it be placed? When is it reached? Upon a question like this only general considerations can be stated. No definite, specific rules can be laid down which will govern every case. This is obvious at a glance. The conditions which surround families are radically different; natural conditions of husbands and wives vary widely. What would be an eminently prudent regulation in one instance might be little short of cruelty in another.

It may be set down as a fundamental principle, beyond all controversy, that offspring should be limited to the legitimate fruitage of husband and wife. There is a growing tendency to override this restriction, and in this tendency is founded the warrant for its restatement here. There is no law of moral, legal or social enactment which gives any man or any woman the right to beget children outside the bonds of legal wedlock. On the contrary, the sternest divine maledictions, the highest moral considerations, the best interests of society, and the historical experience of all times, unite in condemning all illegitimacy of procreation. Law and morality go further, and condemn all illicit sexual intercourse, even though no issue result therefrom. It is debasing to the morals and health of men and women. It lowers the dignity of marriage and brutifies the intellects of those engaging in it. It is repul-

sive to the natural instincts and sensibilities. It is abhorrent to all that is pure, noble and good.

On physiological grounds there is quite a large number of women who should not become mothers. Because of some deformity or malformation of their own structure, parturition is hazardous — perhaps wholly impossible. With women who cannot become mothers without great risk to their own lives, and with a probability that the children they may bear will not be physically sound, there is urgent need that the number of children they essay to bear be narrowly limited. If the hazard be great either to mother or child, absolute cessation from child-bearing is imperative.

There are cases, more numerous than is generally known outside the profession, where, in the course of married life, one or both of the parties develop symptoms of insanity. It more frequently is an affliction of the wife. It is not necessarily of such aggravated type as warrants the deprivation of liberty or separation from home, but sufficiently well-defined as to incapacitate the wife for either caring for herself or her family. It does not, however, interfere with her ability to engage in copulation or to conceive and bear children. When such a condition of mental feebleness exists, it is an insult to decency and morality, and a sin against his own flesh, for the husband to compel his wife to submit to the possibility of conception.

The law of limitation applies in all its strictness to that class of persons, who, through criminal intercourse pre-

vious to marriage, have become inoculated with the virus of that most abhorrent of all human ills, and at the same time, the one most difficult of complete cure, venereal disease. When once this class of disease has fastened itself upon the system, no means have yet been discovered to reputable therapeutics by which it can be entirely eradicated. A pure woman, who finds herself allied to a man who has once been a victim to this disease, no matter how thoroughly he may have reformed his life, and no matter how great remorse he may feel for his past errors, has the right, for the sake of posterity, if for no other reason, to insist that she bear no children to him. She may, with all propriety, consent to live with him as his lawful wife, but she has no right, civil or divine, to warrant her perpetuating a race of poison-tainted children. It is a crime against society for her to do so. She becomes the direct agent in bringing children into the world who will have to bear sickness and suffering all their lives.

There are many individuals, who suffer from diseases which are transmissible, who should be restrained from increasing their families. Notable among these diseases is consumption. The result of consumptive diathesis, its certain transmissibility to children, is as well established as the principle of cause and effect. If children be born to such parents, they are doomed to a weak, precarious existence while it lasts, and to a premature grave. For parents to deliberately beget children, knowing that such issue must suffer and die, is to do wrong. They are inviting pain and sorrow to themselves unnecessarily, and they

are wronging the children. In all such cases as these, it is manifestly right that a limit should be set to the exercise of the procreative powers.

There is a class of women, by no means small, who develop a remarkable fecundity. Cases are known where less than a year elapsed between confinements, and it is no uncommon thing to find women who will bear children at distances of a year and of eighteen months. This is unquestionable over-production. It is a form of disease, perhaps. If it be not prevented, and the wife be allowed to bear children as rapidly and as frequently as she can, womb diseases of most serious character are soon developed, accompanied by that long train of physical and nervous ills, which preclude the possibility of health, and which will inevitably cause death. In this prolific class are to be found many women of sanguine temperament, feeble constitution and delicate organization. If a woman of this kind be impelled to frequent child-bearing, her physical constitution must necessarily become weaker, until it succumbs; whereas, if she have but few children and at long intervals of rest between, she may build up her weak constitution into comparative robustness. It hardly requires the statement that a case is here found wherein the exercise of the law of limitation of offspring should be applied.

It is desirable, from every sound standpoint, that all women, not physically disqualified, bear children. It is better for them. It is frequently observed in professional experience that women, who, before marriage, were in

indifferent health, and continued so for a time after marriage, have, on the birth of two or three children, become vigorous and healthy. Child-bearing is a natural order. It is Nature's method of purging the peculiar organisms of women. It is a process which opens up the sluice-ways of her physical functions, and enables them to operate with better effects. Few childless wives enjoy perfect health, whether that childlessness come through inability or through direct prevention on their part. While this is true, it is also true that in a great many cases, the most, in fact, it is very desirable that the size of the family be controlled. Sound reason, justice, philanthropy, morality and mercy unite in asserting this.

Proper Methods of Limiting Offspring.

If the argument of the preceding pages be accepted as legitimate, the conclusion will be admitted, that it is the right and duty of parents, in certain circumstances, to limit the size of the family. This conclusion being reached, the question logically follows: How can this be done? Are there any known means of coition, honorable, safe and morally right, by which conception need not follow? This is the eminently practical form which the investigation takes.

It may be proper to state that the nature of the matter now to be discussed is exceedingly delicate. It is not clear to all minds that any one is justified in scattering broadcast information on this subject. It is argued that the possession of this knowledge would tend to licentiousness; that if the youth of our land, in whom passion is

strong, knew that sexual congress was possible without danger of discovery and disgrace, illicit intercourse would become common.

This is assuming a great deal more than any known facts warrant. More than that, it is assuming a moral bluntness among our young men and women that is an insult as well as a gross misrepresentation. It is believed that our young women are virtuous from principle, and not through fear of the results of unlawful cohabitation. The innate, instinctive virtue of high-souled chastity is itself a restraint to every indulgence which the laws of God and man do not sanction. Take away from woman everything but her own instinctive sense of right, duty and chaste purity, and she would still be virtuous.

There is less danger in disseminating information on this subject than in withholding it. The vicious and vile will be able to take no advantage, while the virtuous and pure-souled may be able to derive much benefit. From the number of cases instanced in a preceding chapter, and from scores more that could be named, it is apparent that a great deal of misery, suffering and premature death is caused by ignorance of what is duty in the circumstances, as well as ignorance of the methods by which one can still be morally righteous and escape these ills.

At the front of all proper limitations of offspring stands continency, or a cessation from sexual congress when the probability of conception may exist. It has been shown that the practice of continency between husband and wife is not inimical to the highest morality and philanthropy,

but is a physiological benefit to both. The highest sexual virtue is that in which the will dominates the passions absolutely, and which enables one who has felt the power of passion to control its promptings.

Continence, in its broadest sense, includes not only abstinence from sexual commerce, but control of the thoughts and imagination. Indeed, in the latter restraint is found the key to the former. Professor Carpenter, in his treatise of physiology, says: "In proportion as the human being makes the temporary gratification of mere sexual appetite the chief object, and overlooks the happiness arising from mental and spiritual communion — which is not only purer and more permanent, and of which he may anticipate a renewal in another world — does he degrade himself to a level with the brutes which perish." Shakespeare makes even Iago say: "If the balance of our lives had not one scale of reason to poise another of sensuality, the blood and baseness of our natures would conduct us to most preposterous conclusions; but we have reason to cool our raging motions, our carnal stings, our embittered lusts."

We are corroborated by the unspoken appeal that comes up everywhere from debilitated and overtaxed women of husbands who cannot be induced to practice continency. If investigation be made, it will be discovered that the excuse made by these husbands for their imposition on their wives, is that such continence is not in harmony with their physical natures. They will persuade their too-credulous wives that a refusal on their

part to accede has the tendency to alienate the wife from her husband's regard, and the husband from the wife's — a condition which a loving, trusting wife cannot contemplate without a feeling of dismay, and to avoid which she will sacrifice health and even life itself. It may be further urged that the refusal of the wife to permit her husband's approaches is an inducement to him to seek elsewhere what is denied him at home, and yet what his health and general well-being demand. This, too, is a consideration which no loyal, virtuous wife can contemplate without horror and repulsion. Nothing wounds a sensitive woman more deeply, and nothing stings her more keenly, than the thought that her own husband is unfaithful to her. When this thought becomes knowledge it brings a heaviness of heart, a grief, a burden of woe that is greater than death.

And so, by cajoling and threatening, the affectionate wife is led to make a victim of herself to her husband's lust. The husband may not be a brute ; in most cases he is not. On the contrary, he loves his wife even as his own life, and would not willingly do her an injury or injustice. He persuades himself that he is right in yielding to his natural propensities ; that he has a moral right to the use of his wife's person whenever he may so desire ; that there is no law of necessity laid upon him by which he shall be compelled to crucify his body ; that indulgence at will is a benefit to him and no injury to his wife. He does not ordinarily find it difficult to convince himself that what he wants to do is the proper thing to do.

It is all a delusion. The laws of man's being provide as effectually for the healthful distribution of seminal secretions when he is married as when he is not. Common sense ought to teach any reasonable man that, when he must apply persuasion to induce his wife to permit sexual commerce, her nature does not demand it; and that she yields only out of deference to his wishes; also, that such yielding must be against the protests of her unfettered wishes. In a word, that it is submission on her part to what she does not require nor desire. It cannot but innure to her hurt. A little calm reflection will also convince any man who is open to conviction that, by every precept of morality, self-restraint is inculcated. The liberty to engage in any action does not give a license to prostitute it to immoderation and excess. Experience, too, has, or ought to have, taught husbands that continence is no real hardship nor physiological injury to them. Sometimes they have been separated from their wives for longer or shorter periods, and they have not found themselves seriously injured by the enforced continence.

The husband who argues his wife into submission to his will does not think, perhaps, that he is lacking in kindness toward her, and in that respect for her person and judgment to which she is entitled. A husband ought to treat his wife with the same respect shown by a lover to the object of his devotion. What would be the feelings of a virtuous maiden toward her lover if he should insist that his animal nature, his health, depended on her yielding herself to his embraces? Is not a wife a woman with a

woman's feelings, and entitled to the respect due her as a woman? If love do not blind her, what must she think, what can she think, of the man who pleads such reasons for the indulgence of his sexual passions? In all conscience, can not a man practice continence as well after as before marriage?

Incontinence of action is the legitimate sequence of incontinence of thought. Continence of action is secured by continence of thought. Seminal secretion is largely the result of mental effort. Keep the mind from brooding upon sexual matters. A strong mental effort and outdoor exercise will drive sexual thought away. In addition to keeping the mind free, attention should be given to diet. Certain kinds of food, as eggs, oysters, meats, and stimulants of all kinds, tend to excite the mind. Missionaries among nude or half-clad heathen tribes have often found it necessary to subsist wholly upon vegetable diet in order to keep their animal passions within proper bounds. The same attention to regimen of diet will be found very helpful in observing the law of continence. But, after all, the great thing is the will. It can and of right ought to govern the body.

Nature, however, has made some provisions against overproduction. With women, ordinarily, conception is impossible during the period of lactation. This is an encouragement to mothers to nurse their children, since during this period they are free from the probability of conception. But the nursing-time must not be prolonged beyond what is best for both mother and child, in order to extend this barren period.

Another natural provision for the limitation of offspring is periodical sterility among women. About one-fourth of a woman's menstrual life is barren. For a period of from eight to fourteen days after the cessation of her menses, she is susceptible of impregnation; from that time until within from twenty-four to thirty-six hours before her next sickness, she is utterly sterile. The exact number of days cannot be given (differing as women do in the operation of menstruation) in which this sterility is absolute, and during which copulation may be unattended by conception. What has been stated is the general rule, or that which obtains with the majority of women. It is, indeed, contended by some physicians that absolute barrenness never exists with a woman who is capable of conception at all. There are certainly many exceptional cases to the rule, but on the whole, it is of sufficient practical importance to know that, from the fourteenth day after the cessation of one period of menstruation until within three days of the next, sexual commerce will not result in pregnancy.

The three methods here suggested, namely, continence, lactation, and periodical barrenness, are natural limitations to the production of offspring. Being provisions of Nature for this specific purpose, it is entirely proper that advantage of them should be taken. Nature is kinder to women than they are to themselves often — than their husbands are to them. Nature provides to a large extent against that overproduction of children which must destroy a woman's vigor and health.

Improper Methods of Limitation.

The most important feature of the inquiry into the limitation of offspring is now before us. It is one which is much agitated and discussed from both the moral and physiological aspect, with wide variations of opinion and conclusion. The position has been taken and insisted upon in the preceding pages, that the good of both mother and children, as well as the interests of society, warrant the use of legitimate means for the abridgement of the family. It was also urged, and strongly urged, that there are often cases in which these legitimate means of limitation may be used not only with propriety, but where duty, necessity and the highest morality insist that they shall be used.

While all this is eminently proper, it does not debar the strongest condemnation of the many vile and pernicious devices used by married persons to frustrate the legitimate operations of Nature. The two things are essentially different. The one is natural and right. The other is unnatural and wrong. The one may with all propriety be advised. The other can under no considerations be allowed.

The subject of the use of improper means for defeating the ends of Nature is a vast one, and few writers on physiology have felt disposed to enter into an exhaustive discussion of it in all its bearings, especially in its disastrous effects upon the souls and bodies of those chargeable with the guilty practice. Very little reflection and a casual observation are sufficient to convince any one that while the

amorous instinct has lost none of its intensity in the present day, the results of its legitimate outcome are becoming more and more pronounced. Every physician can testify that he is constantly besieged by men and women anxious to know the best and surest methods for preventing conception; many of the inquiries come from persons of high social and moral standing.

The employment of other preventives of conception than those afforded by Nature naturally suggests two lines of inquiry: Is it morally right? and, Is it physiologically deleterious? The discussion of the first form of inquiry, Is it morally right or wrong to resort to any means to thwart the natural operations of physiological laws? does not properly come within the compass of this work. Questions purely of morals belong to another category. The physician as such has no more to do with these than any other member of society. As a member of society, however, he may very properly deplore practices which appear to him to be immoral, and which vitally concern the interests of society. From his more intimate association with the practices under discussion he may be led to feel more deeply upon it, and to be constrained to use his endeavors to throw all possible light upon it, having for his object the moral purification of society.

Is it right, morally right, for any one to thus throw barriers in the way of Nature in the execution of one of her prime laws, especially when it is manifest that upon the proper observation of this law depends not only the purity and chastity of the individuals, but the propagation

of the race? If it be right, it is highly desirable that society at large should know it. If it be wrong, there is equal necessity of the fact being generally known. Many persons are constantly violating this law, and doing so unconscious of the moralities of the case. If they have been sinning in ignorance, it is high time that they knew it, and that they be urged to an abandonment of the evil practice.

Any proper view of the case must lead to its condemnation. Every improper attempt to frustrate the ultimate end of coition is immoral in the highest degree and sows the seeds of domestic ruin and death. It is immoral because it is a deceit; and every form of deception is wrong. It is a most palpable deceit, because it directly and pointedly interferes with the very means established in Nature for the perpetuation of the human species, and renders illusory the most important of all fruitions. Prof. Mayer says: "There is a certain motion which should solicit a husband to obey the law of Nature by which the race is perpetuated; first, the attraction of pleasure; second, the sentiment of paternity. If the latter be wanting, the first will still be efficacious. But if he cheat, and no further security should exist, the race will run the risk of becoming extinct. Then this element, so powerful in the order of the universe, would be abandoned to the hazard of a free will, and would produce a dangerous conflict between the interest of the individual and that of the species." Another respected author, in speaking of the moral aspects of the question, says: "It

tends to annihilate all the physical and moral sympathies, the reciprocal attachment so indispensable to a happy marital union, and to give rise in their stead to coldness, indifference and disunion."

Why should we fear to go to the bottom of the subject and refuse to discover the effects of this festering wound? Concentrate the mind upon any husband and wife who habitually violate the sanctity of the conjugal alliance and profane chastity by their intimate acts, and answer, "Have they any respect for each other?" Is the husband not losing his prestige of honor and the wife her purity of heart? Ere long the changes in their moral relations will become apparent to their friends. Little by little dissatisfaction, indifference and contempt will arise, closely followed by bitterness and resentment. These evil passions, increasing upon each other, bring about those scandalous ruptures, those dark and dreadful dramas of adultery, so frequent in these days. This young wife, but lately so innocent and chaste, who has been polluted by such immorality, will soon know the ingenious stratagems invented by debauchery. Armed with this dangerous knowledge, if in an hour of weakness the seducer should come into her life and virtue should be disarmed before his insidious arts, the fact that she can with impunity violate the conjugal faith will make her less strong and more liable to fall a victim. What, in all honesty, can the husband say of her infidelity? He it was that taught his innocent wife the art of cheating Nature. Can he justly complain if she use her knowledge in cheating himself?

By far the most common of all improper methods adopted for limiting the number of offspring is abortion. It is undeniably a form of murder, and there can be no crime more repulsive to the pure heart than this. Any man, almost, may, in a fit of intense passion when reason is temporarily dethroned, lift up his hand against another and take his life. Anger and passion have led to fratricide; revenge or malice, or some other over-powering passion, have led to the taking away of the life of an enemy; avarice has often led its slaves into situations where murder was added to theft. In each and all of these cases, society has stamped the offender with a proper name, and the law has provided a penalty for his crime. But what name can be given that will fully indicate the crime of that person, man or woman, who calmly and premeditatedly plans and executes the destruction of the life of an innocent and unoffending babe? In some cases, the child is wholly unknown to the destroyer; in others it may be a relative, and in more cases, perhaps, it is a part of his own body. What shall this crime be called? Is it murder, or is it, as Austin says, a crime for which there is no name?

There are many persons who through ignorance, real or assumed, maintain that a child is not a human being until it has assumed the form of a human being, breathes and develops all the essentials of developed life. Others affirm that it is not a life until after quickening in the womb. There is little, if any difference. One might with equal propriety assert that the babe at its mother's breast is not a human being because it has not the concomitants

of matured life. The truth in the matter, sweeping aside all finely-drawn distinctions, is that from the moment of conception a new life begins to exist. It is a form of life, different indeed from what life is at other periods, but truly and essentially life. All that is required now, as at any other period up to maturity, is time and undisturbed repose. The one who destroys this initial life is as guilty of murder as another who takes a babe from its mother's arms and destroys it.

Let it be called by whatever name it may be, abortion, fœticide, infanticide, or what not, the crime is precisely the same in quality. It is an ancient crime — this of destroying unborn children. The nations of antiquity, savage and semi-civilized, and highly civilized, all practiced it, and many of the philosophies of other ages sanction it. In the present day, when human understanding is broader, and human nature is softer, the same old crime is tolerated. It is growing more fearfully prevalent year by year. The testimony of any physician will corroborate this statement.

This nefarious crime is not confined to any particular class of society. It is committed by the rich and poor alike, the respectable and the degraded. Many women have become so accustomed to its perpetration, that they go to a physician with *sang froid* and self-possession, apparently thinking that it is a legitimate part of his profession to destroy children *in utero*. Men, too, with the utmost effrontery will solicit the advice and skill of the medical profession to aid them in the cultivated debauchery of murdering their own children. It is to be feared

that too many nominal physicians lend their aid in this crime. The fact is undeniable that few of them escape the temptation of so acting.

The author may be pardoned for reciting a case in point from his own experience: On entering my office one morning, very early, I was followed by a gentleman who was a total stranger to me. We had hardly been seated in private when he said to me: "Doctor, I have been courting a fine young woman, the daughter of an aristocratic and highly-respectable family. It is the old story. I over-persuaded her, and she is now in a condition that will soon bring disgrace upon her and her family. I would not for any consideration have her condition exposed." "What would you have me do?" I inquired. "I want you to produce an abortion on her, and I will give you anything you may ask," he replied with no evidence of embarrassment. I asked him a few questions about the standing of the family of the girl, his own, the regard in which he held her, how far the pregnancy had progressed, and then said to him: "How is it that you have come so far from your home to consult a physician? Have you none nearer to whom you could go, even in a case of this sort? Have I the reputation of being an abortionist in your locality?" "Not at all," he replied, quickly; "but I have such a high regard for this girl that I do not wish to see her in any but safe hands. That was why I came to you, and for no other." As I had led him to say exactly what I desired he should say, I replied: "I am glad to hear that you consider my knowledge and skill so highly as to come the

distance you have to see me. It gives me confidence to hope that you will do what I say about this matter. What I want to say is this: I have great sympathy for the woman you have seduced. I will do all I can for her. But abortion is not a part of my profession. I wish you would go back and tell the young lady that the thing you have asked me to do is exceedingly dangerous; moreover, it is a high crime. She must not jeopardize her life nor commit a great crime by allowing any one to attempt such a thing. Tell her from me that there is but one safe, honorable and morally right way for her out of her trouble, and that is to marry you." He said nothing more and departed.

I had some curiosity to know what the end of the matter had been, but took no pains to discover. Chance at length revealed it to me. A year or so afterward, I was called in consultation in the locality given by my morning caller. After my business was finished, a gentleman present asked me to come home with him and see a sick child. I went, and found the mother, an exceedingly handsome young woman, overwhelmed with grief over the apparently hopeless illness of her child. I examined the little patient, and was able to apply remedies which saved its life. Before I left, I discovered that these were the two persons who but a little before had sought me out to aid them in destroying this very life, in which they now were so deeply interested, and to which they were so warmly attached.

This incident is not related because of its moment, nor

to prove that adherence to his duty on the part of a physician will always result so satisfactorily. It was an exceptional case in this direction. Usually the betrayed girl is abandoned by her seducer; and then, in an agony of shame and remorse, she is often led to commit the crime from which this young woman was saved by the honor of her lover. The incident will serve as a basis on which to repeat the question: In what did this infant's life differ the first and the second times in which its life was in danger? Manifestly, only in point of development. It was as much a living human being in its mother's womb as it was in her arms. To have taken its life at one time would have been the same as at another; it would have been murder, nothing more, nothing less.

A common method by which abortion is produced is with an instrument. This is introduced through the vagina into the womb. It is then manipulated in such a manner as to destroy the delicate membrane by which the fœtus is attached to the internal surface of the womb. This attaching membrane not only holds the fœtus to its place, but is also the channel by which its life is maintained and its development furthered. When this membrane is ruptured, the life-supply of the fœtus is cut off, and of course it dies. It is then expelled from the womb by natural action. Almost all sorts of articles are used in lieu of a surgical instrument. The profession hears of goose-quills, lead-pencils, umbrella-stays, knitting-needles, etc. A case of personal experience will serve to illustrate the danger which attends the use of instruments:

I was once called hastily to see a married woman. The trouble, I was told, was hemorrhage of the womb. I found, upon examination, that this hemorrhage was excessive and continuous, and seriously threatened life. When I told the patient this, and confessed my inability to proceed safely unless she told me the cause, she confessed that she had produced an abortion on herself, or had attempted to do so, using a common lead-pencil for the purpose. I found that the fœtus had been severed from the womb, but that the womb had not contracted, and consequently the fœtus had not been expelled. The ruptured blood-vessels had not closed up, but were pouring out the life of the patient. It was a serious case, and required great skill and patience in arresting the hemorrhage and expelling the fœtus.

On examination of the fœtus, which was about three months old, I found that its head had been pierced through with the sharp end of the pencil. The mouth of the uterus was seriously injured by the efforts to introduce the instrument. This injury resulted in an inflammation of the womb which threatened the woman's life, despite all remedial agencies employed. What her thoughts and emotions were, when for weeks her life was suspended on a hair, I do not know. They could not be expressed. She was a woman of great respectability, a professing Christian, intelligent and even gifted in many ways. Yet, by a rash act of her own, which involved the destruction of her own child, she was brought to the verge of the grave, and made to stand there looking out upon the

great eternity beyond, with its everlasting throne, its Great Judge, and all its eternal verities of truth, justice and wrath. Into this eternity she was almost ushered by her own act. Had her life not been saved, she must have gone to her account with a double murder on her soul — her child's and her own.

Another case with a more tragic ending may be related here: A woman undertook to produce an abortion by the use of the brace of an umbrella rib. In the effort to accomplish the purpose desired, the instrument escaped the hand of the operator and was drawn within the uterus. Thence it pierced the upper surface, passed up through the bowels, the diaphragm, up into the lungs, where its progress was arrested by the death of the patient. These facts were brought to light by the post-mortem examination. Instances similar to the two here related might be multiplied, all tending to show the exceeding seriousness, from a mere physiological standpoint, of such methods of abortion. It will not do to say that these were due to the bungling of the operator. That does not remove the danger in such operations. The most skillful surgeons, were any such base enough to engage in this disreputable work, might produce fatal results. It is dangerous work.

Another common form of abortion is by violent exercise. Pregnant women will sometimes jump from a short elevation to a hard surface, so as to very considerably jar the body. The object of this is to dislodge the fœtus from the womb. Others will take long journeys in a

rough vehicle over uneven roads for the same purpose. If it were not so serious a matter, it would be quaintly amusing to note that women who undertake this mode of producing an abortion think that it is less criminal than that by the use of an instrument or other violent means. They forget that the gravement of any act depends upon the intent and purpose, not upon the means employed in its accomplishment.

Drugs of various kinds and patent nostrums are largely used in this criminal work. The number of deaths which are brought about by the use of this means of producing abortion is truly appalling. All the deaths from this cause are not known, and many are not even suspected. A number is known so large that it ought to deter women from the dangerous risk. But it does not. These medicines are all poisons. The effects intended to be produced are enough to warn against their employment. Many serious, painful and incurable cases have arisen from inflammation of the stomach superinduced by the use of drugs for the end named. The drug method is even more dangerous than that by instrument.

The introduction of cold water into the uterus by means of a syringe, to which is attached a rubber catheter, is another method of destroying the fœtus. This is a most successful method, but it is usually attended with severe pain. The water is a foreign substance, and is so treated by the delicate organism of the internal uterus. The result is severe uterine colic and such contractions of the muscles of the womb as dislodge and expel its contents.

But whatever may be the means used in abortion, whether by one of the methods named or by some other, the result is always attended with serious consequences. Even in accidental miscarriage, the patient incurs a serious risk of life. The same causes are present in miscarriage as in abortion. There is a sudden arrest of the natural processes of development of the fœtus. This sometimes remains in the womb, a decaying mass, the most of which is absorbed, carrying with it disease into every tissue of the body through natural circulation. This is always a matter of great seriousness. At other times, there may follow hemorrhages, as in one of the cases given. This may not result in immediate death to the patient. But it will exhaust the vitality and waste the strength, so as to leave the system in exactly the right condition for the inception of a class of nervous disorders which will trouble the patient throughout life.

A distinguished writer on this subject says: "The wonder lies in the fact that the mortality is not greater than is represented, and the only reason that can be assigned for this is, that many victims of malpractice, foreseeing the danger which they have willingly, but unwisely, incurred, are, later on, attended by proper nurses and skilled physicians, who bring to bear all the resources of medical science to avert the manifest fatal termination. Even under the best treatment, death cannot always be prevented; then it is, that in order to cover up a sin and thwart a scandal, the art of concealment is practiced, and the world moves on as before."

The immediate mortality resulting from abortion is only a small percentage of the deaths caused by disorders which have their primary origin from this source. The suffering of the women of this day, caused either directly or indirectly by the practice of some of these methods, is deplorable.

There are many other methods, extensively practiced, which are less condemnable than those already mentioned They cannot be commended, as they are neither morally right nor without detriment to health. But, comparatively, they are unobjectionable.

Vaginal injection is very common. This consists in throwing water alone, or water impregnated with some mild acid through the vagina to the womb. This is done immediately after coition. The effect is to wash away and destroy the germs of fœtal life and thus intercept conception. In this, of course, there is no destruction of life, since life only begins with conception. The practice, however, is attended with many serious objections. It is likely to injure the wife. If she be at all a participant in the coitive act, her reproductive organs must be in a greater or less condition of congestion and nervous excitement. The sudden application of a cold fluid to these parts tends to suddenly change their condition. A violent shock is the inevitable sequence. This, in time, can but result in serious detriment to the general health.

Another preventive of conception is the use of the condom, a thin covering used by the husband. It is made of rubber or oiled silk. This device was originally used

by debauchees to prevent the infection of venereal diseases. It is now used for the purpose above named. Its primary use ought to condemn it among persons of pure minds and chaste lives. It is the progeny of the brothel, and should never be allowed to enter the home of the virtuous. A great French woman is reported to have said: "It is a cobweb for protection and a bulwark against love." It is, of course, an absolute preventive of conception, since it prevents the semen with its spermatozoa from entering the uterus. There can be no conception save with a union of these two fluids. Few husbands can have the effrontery to offend the delicacy and chastity of their wives by offering the employment of such means. It must be offensive to every sense of chastity in the pure mind of the wife.

The use of the hood is a somewhat modern device. Its use was unknown to the writer until quite recently. He was called to attend a patient suffering from a congestive inflammation of the right ovary. She was too young to have passed the period of mature womanhood, though she had borne no children for several years. In giving directions for treatment, it was insisted that continence be observed. To this the reply was made by the patient that no possibility of conception could exist, since she, through a physician, had secured a little rubber cap or hood. This was carefully adjusted to the *os uteri* previous to engaging in the coitive act, and was not removed until the next day. This is certainly as effectual a preventive of conception as the condom, and for the same reason. But the repeated use of such a device, and especially the reten-

tion of a rubber fabric in the vagina and womb for thirty-six hours, must ultimately result in irritation, inflammation and ulceration (and this, likely, of a malignant form) of the mouth of the uterus. Such ulcerating disease is fraught with grave danger to the general health of the patient.

One more method is that known as onanism. It takes its name from Onan, of whom and his act there is mention made in the Divine Word. It consists, simply, in withdrawal previous to the emission of the semen. Its successful use depends upon the self-control of the husband, as he must act at the very moment when it is most difficult so to do. It is manifest that this withdrawal is an injustice to the wife, since it robs her of all participation in the marital act. As it was condemned in Onan, so it must be condemned in all his disciples. It is only another form of self-abasement at best, and deserves entire disapprobation. It will result eventually in serious injury to the health of both husband and wife.

Barrenness.

Barrenness, or sterility in women is inability to bear children. It is often a cause for much unhappiness in the home where it exists. Most married persons are satisfied for a time with the blessings and happiness of this relation. They are young, and full of life and health. But the time will come, sooner or later, when they will not be satisfied. Unsatisfied longings will dwell upon the soul and fill the life with uneasiness and unrest. The feeling of

paternity and maternity lurks in the home and at the fireside of every family, and it cannot be stifled. It creates a yearning, a craving for something which husband or wife cannot give. If it become apparent that for some unknown cause, this yearning cannot be gratified, it is looked upon as little less than a calamity.

Men who have made the fertility of woman a special study have arrived at the conclusion that about eighteen months ought to intervene between the date of marriage and the birth of the first child, and that the question of the wife's sterility is decided in the first three years of her married life. If no child be born in that period, no improper preventives of conception having been employed, the chances are largely against her ever becoming a mother. If children are ever desired, it is advisable to consult the physician at this time, so that the cause of the barrenness may be ascertained, and, if possible, removed.

The age of the wife at marriage has an influence upon the expectancy of children. The interval between marriage and the birth of the first child is increased in proportion to the number of years the woman is past twenty-five years of age at the time of marriage. Trustworthy statistics show that women are most fecund before the age of twenty-five. English observers maintain that women married under nineteen years of age are not nearly so prolific as those married between nineteen and twenty-five. The author's observation among American women does not bear out this assertion. It is further maintained by

English authority that, after the age of twenty-four, the probability of barrenness increases with the greater age at the time of marriage.

There are two periods in a woman's life in which she is said to be absolutely sterile; one is before she arrives at puberty, and the other is after she has passed the menstrual period. Some exceptions to this general rule have been noted, but they are hardly credible. It is quite difficult to see how pregnancy could take place in a woman in whom there were no physiological conditions present to favor her part of the reproduction.

The older a woman may be at the time of marriage, the longer will be deferred the age at which she becomes sterile. It seems that Nature compensates her, in allowing her to bear children later in life than if she had commenced earlier. This does not, of course, make her child-bearing period longer than the average; it is rather shorter. The compensation is not quite complete, as those who marry young have a longer child-bearing period than others, notwithstanding the protraction of the time with the latter.

As already said, a wife who remains sterile for three or four years after marriage will likely remain so through life. The probabilities of sterility increase with each year of barrenness. Fruitful women have usually a period of less than two years between the births of their children. Women who nurse their own children have longer periods of exemption from conception between the births of their children than those who do not. Lactation is conducive

to sterility, as the vital forces are wholly employed in the mammary secretion. Many women continue sterile so long as the child is permitted to nurse, which fact has been utilized by women averse to frequent births by keeping the child at the breast for a long time.

Climate and latitude have their influence upon fertility. More children are born to a woman in warm than in cold countries. This is owing very materially to the longer periods between the times of menstruation. It is also said on good authority that "the number of children born is in inverse proportion to the amount of food in a country and in a season. In Belgium the higher the price of bread, the greater the number of children, and the greater the number of infants' deaths." The spring of the year is the most prolific season. This is Nature's mating season and it conduces to fecundity. Poverty seems to promote fruitfulness. Poor people have much larger families as a rule than their rich neighbors.

But there is a large number of women who are sterile, and they continue so. The fault of unproduction is invariably laid to their door. This conclusion may be unwarrantable. It is not true that every man who is healthy and robust is capable of begetting children. Sometimes, too, women are supposed to be sterile who are not so. Such women may have been pregnant and not have known it. If such a woman has, at the time of her monthly sickness, deferred, to be followed by what to her is an excessive flow and waste, it may be and in all probability is a miscarriage. Hence, a propensity to

miscarriage may be the only cause of barrenness. This, by proper treatment, may be overcome.

A frequent cause of barrenness and matrimonial unhappiness is a coldness and want of congeniality in temperament. On the contrary, with some women nothing seems to be in the way of conception save too intense passion and over-excitement. Displacements of the womb and attendant diseases are frequently a hindrance to fecundity ; in such cases the sterility disappears when the cause is removed. There is, very frequently, a peculiar condition of the cervix of the womb which hinders, if it do not prevent conception. This is amenable to treatment. A condition of general debility and the presence of poison in the blood may prevent conception. When the barrenness is attributable to this cause, it can be removed by care and tonic treatment. It is not an uncommon thing, however, to find women who are feeble in body and health, and yet who have a remarkable tendency to fecundity. Cases are not wanting, and they are not rare, where sterility was overcome by a temporary separation of the wife from her husband. The theory of cure was that, upon the renewal of their marital intercourse the novelty of the act had a stimulating effect upon the dormant procreative functions of the wife.

There is evidently a condition of sterility which is the result of mismating. The proof of this is seen where a woman remained barren in a first marriage but was fruitful in a second. This same condition is observable among the lower animals. Certain males and females

will not produce offspring when mated, but do so when mated otherwise. The ancients and some modern authorities maintain that persons of the same temperament should not marry, as such marriage is likely to be unfruitful. Hence blonde women should marry dark men, thin women robust men, and *vice versa*.

Though a wife find herself unable to conceive for the first years of marriage, she should not despair. Barrenness often disappears of itself. A notable example is that of Anne of Austria, Queen of France, who bore Louis XIV., after a period of twenty years' sterility. Catherine de Medicis, wife of Henry II., became the mother of ten children after ten years' barrenness. Dr. Tilt, of London, mentions the case of a woman who was married at eighteen, but, although both she and her husband enjoyed good health, remained childless until she reached the age of forty-eight, when she bore one child. Another case is referred to where a well-developed woman was married at eighteen, but did not bear a child until she was fifty.

The investigations of political economists have established the fact that during times of peace the ravages of disease and death may be counteracted and the population maintained when only one-half the women of the community are fulfilling their duties in procreation. Nature has also instituted laws to prevent an undue increase of population. It would seem as if the extension of the material, intellectual and social culture of communities has the tendency to render marriage less prolific, and the population stationary or nearly so. So evident is this tendency that

it has been laid down as a maxim of Sociology by Sismondi, that where the number of marriages is proportionally the greatest, where the greatest number of persons participate in the duties, the virtues, and the happiness of married life, there the number of children which each marriage produces is the smallest. Thus, to a certain degree, does Nature indorse the teachings of those political economists who say that the increase of population beyond certain limits is an evil happily averted by wars, famines and pestilences. The direst disasters thus become national blessings.

Many causes of sterility appear to be beyond the power of the present advancement of medical science to overcome. Many supposed cases of incurable sterility, however, can be removed by proper medical treatment. Just before, at the time of, and immediately after the menstrual epoch, is the time most favorable to fecundation. Those persons anxious to have offspring can avail themselves of this fact. Quiet for several hours, lying supinely upon a bed, after coition has been helpful in the same way. This was a teaching of Hippocrates, the great father of medicine. There is a marked sympathy of the mammary glands and the uterus; hence, vigorous sucking of the breast before the generative act will, in many cases, insure conception. This is especially the case when barrenness is the result of coldness on the part of the wife.

The greatest hope of correcting sterility is in having all physical disabilities removed. Perfect physical health, while not necessary to conception, is a great help toward securing it where barrenness exists.

MATERNITY.

Pregnancy.

THE ovaries of woman contain numerous microscopic bodies termed eggs, or ova. During her menstrual life — that is, from the age of puberty till the cessation of the menses — these ova mature, one after another, and are discharged from the uterus at intervals of about four weeks. This discharge lasts from one to four days, and is generally accompanied by the flow of a fluid closely resembling blood. The period of ova-expulsion is termed the flow of the menses, or the monthly sickness.

The ovum contains in it the principle of life, which is capable of germination at the proper time and under the proper conditions. If it come in contact with the spermatozoa, or vital element of the semen of the male, before its discharge from the uterus and vagina of the female, the two will coalesce and together constitute the germ of a new being. This vitalized germ lodges somewhere in the sexual organs of the female, ordinarily the womb, and from that time begins a new and independent growth. If, however, the ova of the female do not come in contact with the male spermatozoa within a certain time, they are washed out of the uterus or have no further power of vitalization.

Two conditions are necessary to conception: That virile ova of the female come in contact with virile semen of the male, and that this contact take place in the female organs of generation. When these conditions are observed, a germ of life exists. The germ is thereafter termed the fœtus. The womb is the natural receptacle of the fœtus, and it is usually developed there. This organ is exactly adapted to the protection, the growth, and the subsequent expulsion of the fœtus. It was designed of Nature for this end. Occasionally, however, the vitalized germ lodges in the upper portions of the genital canal, which is the tube leading from the ovary to the womb. Rarely, it is lodged in the ovary itself. Both of these latter conditions constitute what is technically termed extra-uterine pregnancy.

After impregnation a series of remarkable changes take place in the uterus, whereby it becomes fitted for the development of the ovum. This development requires a period of forty weeks, or, as commonly recognized, nine calendar months. The changes in the uterus are accompanied by other changes in the woman. These changes are observable and constitute the symptoms of pregnancy. She knows that she is pregnant by observing these physical changes in her being. There are several of these changes, or symptoms of pregnancy, and they are looked for by married women with considerable solicitude. By them she determines her condition, as she should, and governs her conduct according to what they indicate.

Perhaps the first thing that attracts a woman's atten-

tion, if she be in good health, is the failure of the menses, or the return of her monthly sickness. To the woman who has never known such an omission, this is set down as conclusive evidence of pregnancy. The symptom is ordinarily indicative, but it is by no means an infallible evidence of pregnancy. It not infrequently happens that young married women, even after conception, have a slight flow at the regular period, which deceives them into considering it the menstrual flow. By this deception they are led to miscalculate the time of confinement. On the other hand, the menses are sometimes arrested after marriage, when conception has not taken place. This suspension is only temporary, and seems to be the result of the profound impression made upon the wife's system by the new relation. It has been said that cases are known where menstruation continued throughout the whole period of gestation. This is incredible, because it is at direct variance with any reasonable theory of menstruation, its purpose and end. There is no doubt that a discharge from the uterus at regular periods has occurred. But that is far from proving that menstruation continued. The similarity of the discharge in time and appearance to regular menstruation does not constitute it such.

Following the cessation of the menses, there is often, and generally, a sickness at the stomach. It is felt in the morning after rising from bed. This symptom is far from uniform. Some women never are troubled with it during the whole period of gestation. Others are attacked with

a violent nausea and retching for three or four months after conception. In others, this sickness continues for six months, and not infrequently during the entire forty weeks. When this latter is the case, the woman suffers indescribably, and she is often wasted greatly physically. Sometimes the vomiting is slight and is followed by comparative relief. With others it is most violent and protracted, even when nothing can be expelled from the stomach.

Women who are greatly troubled with this nausea during pregnancy are usually those who are likewise affected with slight nausea during their monthly sicknesses. It is caused by the excitement and irritation of the uterus, with which the stomach sympathizes. By some authorities it is called the dyspepsia of pregnancy. There are no good grounds for this terminology. Dyspepsia proper is a disease of the stomach, or of some organ immediately connected with the digestive processes. In the nausea and vomiting of pregnancy there is no disease of the stomach nor of any organ concerned with digestion. The stomach may be in a perfectly normal state, at least as much so as it was before conception.

An old and common proverb affirms that a sick pregnancy is a safe one, and that the absence of nausea and vomiting is a source of danger to the mother and child. Women who habitually fail to experience these discomforts are said to be in danger of miscarriage. These affirmations cannot be taken unqualifiedly. They are not borne out by the experience of many mothers and physi-

cians. The pregnancy-sickness is a purely sympathetic condition, and cannot be an absolute guaranty of a safe pregnancy. When it is extremely troublesome it is advisable to have it relieved as much as possible. Despite all the exceptions, the morning sickness may be set down as one of the certain indications of pregnancy. It is found in the majority of cases.

Another symptom of pregnancy is an excessive secretion of saliva. This is often very annoying to the woman, sometimes even compelling her to forego the pleasure of going into society on account of her inability to prevent the accumulation of the saliva in her mouth. This symptom belongs to the earlier months of gestation, and it may become so excessive as to affect the general health. It is closely allied to the morning sickness and frequently accompanies it. Both of these affections bear directly upon the digestive processes, and may, if they be severe, so affect the nutrition as to greatly weaken the woman. This should not be allowed. The impression prevails among many women that the discomforts of pregnancy are absolutely necessary, and, therefore, must be borne patiently. This is not the case with many of these affections. Excessive modesty, too, often dissuades some women from consulting their medical adviser during the earlier months of gestation, thinking it something of immodesty to betray their condition. Both these assumptions are erroneous. The ailments of pregnancy can be very materially lessened by proper care and treatment; some of them can be entirely removed. Suffering that

can be avoided is no virtue. It is injurious as well, since the woman needs to economize her strength, supporting, as she does, two lives in one.

It has been said that vomiting is a usual accompaniment of the morning sickness. There is often another form of vomiting. It is sometimes quite excessive, and is unattended with appreciable nausea. The patient may feel well, with a good appetite ; but as soon as the food is on the stomach, it is expelled. This is a symptom by no means unusual. It is closely allied to another symptom, indigestion, which will be treated immediately.

Indigestion.

The stomach is in intimate sympathy with the womb. In all cases of pregnancy there is more or less functional derangement of the stomach. The appetite may be excellent and the relish for food as good as is common, but the digestion is imperfectly performed. The food seems to sour upon the stomach, there are eructations of gas, and a sense of oppression or tightness follows which renders the patient very uncomfortable. The only relief seems to be by either spitting up the food or by vomiting it entirely from the stomach. Much difficulty is found in finding any kind of food that will suit the irritated condition of the stomach. The result of this indigestion and want of food-assimilation is that the patient wastes away, becomes thin and weak. The indigestion may and generally does wear away, and at the end of the third or at best at the end of the fourth month. The patient will then have no more

trouble in this direction until the latter months of gestation, when it returns. The second period of indigestion, however, is from a totally different cause. It is not now a result of the sympathetic influence of the uterus upon the stomach, but because of the pressure of the uterus on the lower border of the stomach. The uterus has now attained such dimensions that it occupies the greater part of the abdominal cavity. Whatever may be the cause of the indigestion of pregnancy, and whatever may be its discomforts and weakening effects, it rarely results in any serious impairment of the stomach or other parts of the digestive system, and will entirely disappear after confinement.

Constipation and Diarrhea.

By far the greater number of women during pregnancy are troubled either by constipation or by its opposite, diarrhea. Constipation is the more common. The diarrhea, when it exists, is generally the result of an excited condition of the nervous system, which manifests itself upon the intestines, where it not only induces the discharge of an extra amount of liquid into the bowels, thereby softening the contents, but the peristalic action, which propels the fecal matter, is increased, producing much the same effect as a purgative. Constipation, however, troubles the greater number of women. It is likely to continue throughout the entire period, especially after the third month. It is partly due to indigestion, but, toward the latter months, is more due to the pressure of the

womb upon the rectum, thereby retarding the passage of the fecal matter. Diet and proper exercise may, to a great extent, overcome these disorders. Sometimes it is necessary to resort to treatment. If the constipation be a result of indigestion, some assistant to the digestive functions will be found beneficial. If either condition be obstinate, an astringent may be needed in diarrhea and a laxative in constipation. Drastic purgatives should be avoided lest they lead to miscarriage. A four-grain dose of aloes and myrrh, if there be no special tendency to piles, will be found of great service. It is far more desirable, if possible, to overcome the sluggishness of the bowels by diet, and ordinarily this can be done.

Breasts.

Changes in the contour of the breasts is a good evidence of pregnancy. They become larger and firmer to the touch. The veins beneath the skin are more conspicuous and of a deeper blue. Frequently a tingling or stinging sensation is experienced. It scarcely amounts to a pain, but the whole breast is tender under pressure, so that clothing ordinarily worn with comfort cannot now be worn without inconvenience. The nipples stand out with greater prominence ; they appear swollen, and sometimes become painful. The peculiar, rose-colored circle around the nipple enlarges in size, and gradually assumes a darker hue, and becomes covered with numberless pimple-like elevations. Subsequently, numberless mottled patches of whiter color scatter themselves over and around

the areola. The times in the period of pregnancy in which these changes take place are variable. They sometimes begin to develop themselves in a few weeks, but oftener not until the second and even the third month. In women who are thin and delicate, they will not appear until toward the close of pregnancy. There are a few women who experience no alteration in their breasts until after confinement; with such women the secretion of milk is likely to be delayed until several days after the child is born. In some rare cases the breasts do not undergo any change whatever. There is, of course, no secretion of milk, and the child must be reared by artificial means.

Abdomen.

In the first two months, and even more, the abdomen is less prominent than usual, and presents rather a flat appearance. The navel is drawn and depressed. About the third month the size of the abdomen begins to fluctuate. It swells up to considerable size at one time, and then recedes. The wife is sometimes deceived as to her real condition by discovering that her abdomen is less prominent in the fourth month; thereafter the increase of the abdomen, both in size and in firmness, is more regular. The contour is significant, the pressure of the fœtus giving it a pear-like appearance. The navel now begins to protrude. In dropsies and other tumors which produce an enlargement of the abdomen, the shape of the protruding navel is broader and smoother, and less pointed than in pregnancy.

There is an enlargement of a woman's abdomen which takes place later in life than the period we are now considering. It is sometimes mistaken for pregnancy. A case in illustration may be given. It was that of a woman upon whom an operation had been performed for polypus of the uterus. This had given her much trouble on account of profuse wasting during her menses. Soon after the removal of the polypus her menstrual period ceased, and the abdomen began to enlarge. Being always sterile and greatly desiring issue, she was overjoyed at the thought that she had now become pregnant as a result of the surgical operation. She was very much saddened when told that this enlargement of the abdomen was only the result of a deposit of adipose matter which not infrequently takes place when the generative period is passed. It was only the evidence of the approach of the winter of life, which destroys with its icy hand all the germs of reproduction.

Quickening.

Quickening is a very conclusive evidence of pregnancy. It usually occurs at about the middle of the term of gestation, that is, at the end of the eighteenth week. The time of the quickening varies with different women. Some maintain that they can discern movements of the fœtus as early as the end of the third month, while others feel no sensation of the infant life until the sixth month. Some women never feel any movements whatever, and others not until the last month of pregnancy. The reason

of this wide variation cannot be satisfactorily given. It has been suggested that a fœtus that does not indicate its presence by movements is purely indolent. Perhaps some of the many people daily met who seem scarce energetic enough to keep out of common danger, were of this sort in their mother's wombs. Because the mother is not conscious of movement in the fœtus, is not conclusive evidence that it is motionless. There may be a lack of sensitiveness in the walls of the womb.

On the other hand, a woman may be deceived and think she feels the movement of the child, when the actual sensation is caused by a flatulency of the bowels, or dropsical effusion, or some other wholly different cause. A case came under the author's notice not long since. A woman who was the mother of four children had a sudden cessation of her menses. An enlargement of the abdomen followed, and the woman was convinced that she was pregnant. In a little time longer, at the proper time after the cessation of the menses, she says she distinctly experienced the movements of the fœtus. At the end of the sixth month, she was taken with a return of her monthly sickness. I was sent for, and found that though the menstrual flow was excessive, there was no evidence of miscarriage. It lasted a little longer than was usual with her, but ceased and she felt entirely well. At the end of four weeks she menstruated again and regularly thereafter until she really became pregnant. The case was somewhat singular, both in its progress and in its end. The woman was not hysterical in the slightest degree.

The historian Hume says that Queen Mary, in her intense desire to have issue, so confidently asserted that she felt the movement of the fœtus that public proclamation was made of the condition of the queen. Dispatches were sent to foreign courts. National rejoicing was had. The sex of the child was predetermined to be male. Bonner, the Bishop of London, made public prayers, in which he said that Heaven would pledge to make the boy beautiful and witty. Subsequent events proved, however, that these " quickenings" of Queen Mary were attributable to ill-health and incipient dropsy.

Sounds of Foetal Heart.

The sounds of the fœtal heart may be heard first during the fifth month. They average about one hundred and thirty per minute. The sounds are very feeble at first but may be heard quite distinctly during the last three months. In some women when the abdominal walls are thick and heavy these sounds cannot be heard at all. This symptom is of no practical advantage to either the wife or her husband ; as no one but a physician with a proper instrument can discern them with any satisfactory definiteness.

General Appearance.

The alterations in the color of the skin are quite common. It is a symptom of considerable value and worthy of note. Delicate women of fair skin grow darker. Darker may grow fairer. The skin is frequently mottled

over with copper-colored spots, or yellowish blotches. These are usually well defined on the face and neck, or those parts of the body exposed to the air and sun. A dark ring encircles the eyes, and if there be any moles on the body, they increase in size and deepen in color. Oft times the skin becomes loose and wrinkled, giving the young and beautiful wife the appearance of an old, hag gard, care-worn woman. In some instances, a considerable growth of hair will develop on those parts of the face which in men are covered with beard. The whole appearance may be altered. Women who ordinarily perspire readily and freely now have a dry, rough skin, while those whose skin is naturally dry and rough, perspire excessively and emit an odor that is sometimes quite offensive. Sometimes affections of the cuticle that have been troublesome for years will disappear and not return.

Heart-burn.

Of the minor symptoms of pregnancy, heart-burn is a very common and annoying one. It is the result of indigestion. This promotes a sour stomach, giving rise to that peculiar pain erroneously called heart-burn. It can ordinarily be relieved by swallowing some antacid substance, as lime-water, bicarbonate of soda, or magnesia. On the contrary, an acid sometimes seems to give the speediest relief, as lemon-juice, citric acid, or even cider vinegar.

Vitiated Appetite.

A depraved appetite is another of the common symptoms. At the same time, it is one of considerable importance and reliability. If a married woman feel an inordinate desire to eat something which is not an article of food at all, as chalk, slate-pencils, charcoal, she may conclude, without much reasonable doubt, that she is *enceinte*. There frequently exists a voracious appetite. The woman eats enormously, for her, and still is always hungry. This craving will sometimes compel her to get up at midnight to eat. She may desire only certain kinds of food, or, perhaps, drink. If she refuse to satisfy this craving for particular kinds of food, the thought of it will haunt her day and night. That particular kind of food is always before her mind and in her thoughts. The unsatisfied craving may show itself, as in birth-marks upon the child. It is advisable, therefore, as far as may be without injury, to satisfy all such cravings.

Toothache.

Some women are greatly troubled with achings of the teeth during gestation. It is painfully annoying at times. The pain often only appears to be in the teeth, while in reality it is in the jaws or some adjacent nerve. This has been proven by some women, who have had all their teeth extracted without relief from the pain. Extracting teeth at this period should not be done, if it be possible to avoid it. It may result in miscarriage. Stimulating lini-

ments or poultices can be applied to the jaws with good results. The pain will cease suddenly after a time without any treatment.

Affections of the Mind.

It is not unusual for the mind to be strangely affected, sometimes to the extent that the husband and friends become seriously concerned. The whole intellectual nature seems changed. The wife is more impressible. She is no longer the pleasant, confiding, gentle, light-hearted woman, but becomes soured, complaining, bitter, passionate and jealous, making her husband and dearest friends the special objects of her attacks. There sometimes appears an opposite effect in differently-tempered women. Fretfulness and ill-temper, which is the normal condition, give place to sweetness and patience and good-humor. In the latter case, the family are not likely to look upon pregnancy as an unmixed evil.

Nervous Affection.

Other affections of the nervous system are sometimes developed of a hysterical nature. The wife will have depressing forebodings of impending evil; she feels that some great calamity is about to befall herself or some of her family. At other times, she is incredulous of her own condition. She will often invent the most ingenious arguments to convince herself and others that all her peculiar symptoms are attributable to any cause but pregnancy. A peculiar kind of insanity is sometimes developed, and it

may become so serious as to require some sort of restraint put upon the wife's actions.

The symptoms of pregnancy which have been noted are only those which are most valuable to the unprofessional reader. There are other symptoms which the physician notes, but they are only cognizable by him and valuable to him. All the common symptoms have been given.

Duration of Pregnancy.

In his text-book on Physiology, Prof. Foster says: "In spite of the increasing distention of its cavity, the uterus remains quiescent, as far as any marked muscular contractions are concerned, until a certain time has run. In the human subject the period of gestation generally lasts from two hundred and seventy-five to two hundred and eighty days, that is, about forty weeks. The general custom is to expect parturition in about two hundred and eighty days from the last menstruation. Seeing that in many cases it is uncertain whether the ovum, which develops into the embryo, left the ovary at the menstruation preceding or succeeding coition, or, as some have urged, independent of menstruation by reason of coition itself, an exact determination of the duration of the time of pregnancy is impossible."

In concord with the opinion of this well-established authority, it will appear that the exact duration of pregnancy cannot be determined. It can be approximated sufficiently to meet all ordinary demands. There have

been, however, instances where the happiness of families, the rights of individuals and the interests of nations depended upon this very point. These instances may recur. Ordinarily, as said, a difference of a few days makes no practical difference, and were it not for these extraordinary cases the subject, probably, never would have claimed the profound attention of physicians, philosophers and legislators.

As is usual in cases of this sort, there are extremists. On the one side are those who contend that the laws of Nature are fixed and unalterable, and that the period of gestation is invariable. On the other hand, there are those who assert with equal confidence that the time of confinement may be accelerated or retarded in various ways and by various instrumentalities. There unquestionably is abundant evidence to prove that parturition can be prolonged beyond the established two hundred and eighty days. Nor can it be denied that the fœtus will live, though the time be shortened very much from this standard. Now, the truth is that not only pregnancy but almost every other function of the physical life is subject to variations, both as to the period of approach and to that of its duration.

It has been shown elsewhere in this work that the epoch of puberty varies greatly both in the time of its development and its duration, and that this change in life, in the regards named, is conditioned, to a considerable degree, on the temperament and social habits of the individual. It is well-authenticated that the length of the

time of gestation varies among the lower animals. The period of the cow, for example, is the same as that of the woman, yet there are instances where the calving was deferred thirty or forty days.

Dr. Napheys has collected some interesting cases of protracted gestation, which may be reproduced here as illustrating the point in hand. He says: "As an illustration of the great interest sometimes attached to the inquiry under discussion, we may cite the celebrated Gardner peerage case, tried by the House of Lords in 1825. Allen Legge Gardner petitioned to have his name inscribed as a peer of the realm on the roll of Parliament. He was the son of Lord Gardner by his second wife. There was another claimant for the peerage, however — Henry Fenton Ladis — on the ground, as alleged, that he was the son of Lord Gardner by his first and subsequently divorced wife. Medical and moral evidence was adduced to establish that he was an illegitimate child. Lady Gardner parted from her husband on January 20, 1802, he going to the West Indies, and not again seeing his wife until the 11th of July following. The child whose legitimacy was called in question was born on December 8 of that year. The plain medical inquiry was whether this child, born either three hundred and eleven days after intercourse (from January 30 to December 8), or one hundred and fifty days (from July 11 to December 8), could be the son of Lord Gardner. As there was no pretense that there was a premature birth, the child having been well-developed, the conception must have dated from January

30. The medical question was therefore narrowed down to this: Was the alleged protracted pregnancy (three hundred and eleven days) consistent with experience? Sixteen of the principal obstetric practitioners of Great Britain were examined on this point. Eleven concurred in the opinion that natural pregnancy might be deferred to a period which would cover the birth of the alleged illegitimate child. Because, however, of the moral evidence alone, which proved the adulterous intercourse of Lady Gardner with a Mr. Ladis, the House decided that the title should descend to the son of the second wife."

There is on record one fact, well observed, which establishes beyond doubt the possibility of the protraction of pregnancy beyond the two hundred and eighty days. The case is reported by the learned Dr. Desormeaux, of Paris, and occurred under his own notice in the Hospital de Maternité of that city. A woman, the mother of three children, became insane. Her physician thought that a new pregnancy might re-establish her intellectual faculties. Her husband consented to enter on the register of the hospital each visit he was allowed to make her, which took place only every three months. So soon as evidence of pregnancy showed itself, the visits were discontinued. The woman was confined two hundred and ninety days after conception.

The late distinguished Prof. Charles D. Meigs, of Philadelphia, published a case (in which he deemed that entire confidence could be placed) of the prolongation of pregnancy to four hundred and twenty days, or sixty

weeks. Dr. Atlee published two cases which nearly equalled three hundred and six days each. Prof. Simpson, of Edinburgh, records, as having occurred in his own practice, cases in which the period reached three hundred and nineteen days. In *The Dublin Quarterly Journal of Medical Science* a case of protracted pregnancy is related by Dr. Joynt. The evidence is positive that the minimum duration must have been three hundred and seventeen days, or about six weeks more than the average. Dr. Elsasser found, in one hundred and sixty cases of pregnancy, eleven protracted to periods varying from three hundred to three hundred and eighteen days.

What May be Known of the Child Before Birth.

The opinions of writers on this subject vary greatly. Some affirm that much can be known of the sex and other physiological conditions, while others, with equal firmness, say that absolutely nothing can be foretold on these points. Notwithstanding these differences of opinion, it is now pretty conclusively established, by the most reliable scientific tests, that males or females can be produced at will. The establishment of this fact and its practical observation would be very valuable in some families, and for a community at large. The inequality in numbers of the sexes could be prevented to a great degree. But its especial value would be in those families where there is a preponderance of one sex with a strong desire for the other. It is almost universal with husbands and wives

that they desire to have the family divided between boys and girls. It certainly is better that it should be so. It makes a happier home, a more equally-balanced household.

M. Thury, professor in the Academy at Geneva, in Switzerland, has shown how the sexes can be produced at will. Scientists had observed that queen bees lay female eggs first and male eggs afterwards. The same was observed to be the case with the domestic hen; the first eggs laid invariably gave female chicks, the last laid males. It was observed that mares given early in their periods bore fillies, while those brought in later bore horse colts. Taking these established facts, Prof. Thury laid down a general law for stock-breeders; if females be desired, give the dam at the first signs of heat; if males be wanted, give her toward the end. This law was adopted, and the result of its test was made known through the President of the Swiss Agricultural Society. An extract from this report is given below:

"In the first place, on twenty-two successive occasions, I desired to have heifers. My cows were of the Schurtz breed and my bull a pure Durham. I succeeded in these cases. Having bought a pure Durham cow, it was very important for me to have a new bull to supersede the one I had bought at great expense without leaving to chance the production of a male. So I followed according to the prescription of Prof. Thury, and the success has proved once more the truth of the law. I have obtained from my Durham six more bulls (Schurtz-Dur-

ham cross), for field work ; and having chosen cows of the same color and height, I obtained perfect matches of oxen. In short, I have made in all, twenty-nine experiments, and in every one I succeeded in the production of what I was looking for — male and female. I had not one single failure. All the experiments have been made by myself without another person's intervention ; consequently I do declare that I consider as real and certainly perfect the method of Prof. Thury."

Dr. Napheys, in referring to this subject, relates a number of cases, gathered from well-authenticated sources, all tending to verify the principle laid down. *The Medical and Surgical Reporter*, of Philadelphia, gives the result of similar experiments with animals. A like conclusion was reached in every case. This law has been tried, according to statistical reports, upon the human family with like results. Dr. F. J. W. Packman, of Winborne, has stated in *The Lancet* that, in the human female, conception in the first half of the period between the menses produces female offspring ; if it take place in the latter half, the offspring will be a male. When a woman has gone beyond the time of her expected confinement, the child will generally be a boy.

In *The Medical and Surgical Reporter*, of Philadelphia, a respectable physician writes that, in numerous instances that have come under his own observation, Prof. Thury's theory has proven correct. Whenever sexual connection has been had in from two to six days after the cessation of the menses, girls have been born ; and whenever it took

place at from nine to twelve days after the menstrual period, boys were the result. "In every case," he says, "I have ascertained not only the date at which the mother placed conception, but also the time when the menses ceased, the date of the first and subsequent intercourse for a month or more after the cessation of the menses, etc."

Another physician writes to the same journal the result of his experiences and observations, verifying the foregoing. A farmer in Louisiana, writing in the *Turf, Field and Farm*, adds his testimony in support of the Thury law: "I have already been able, in many cases, to guess with certainty the sex of a future infant. More than thirty times, among my friends, I have predicted the sex of a child before its birth, and the event proved nearly every time that I was correct."

So much for the testimony of those who have made the operations of the law a matter of study. The author can say from his own observations, that in each of a dozen or more instances of which he was cognizant, where there existed a desire to have no issue, and the exercise of the marital act was deferred until it was supposed the condition of conception was past, but where such was not the case and conception followed, the child born was a boy. Putting all this accumulation of testimony together, and much more of the same kind that could be gathered, it appears that by careful observation the sex of the unborn child can be told with certainty. More, it can be said with some degree of confidence that parents can, by carefully observ-

ing the conditions of sex as indicated before, have offspring of the sex desired. There will, of course, be exceptions to the law, as there are in all laws, but the general truths are so well authenticated that it can safely be set down as the law of sex among animals, and a law whose provisions extend to the race of man.

Twins, Triplets, Etc.

As a general rule, women bear but one child at a time. To this rule there are many exceptions. It is no uncommon thing to meet twins and occasionally triplets. Such prolific production at a single birth is the result of an overexertion of Nature, and, as it is to be expected, such extraordinary production in number is attended with a corresponding degree of feebleness, both mental and physical, in the product. This fact has been established conclusively. A careful examination has demonstrated that of imbeciles and idiots a much greater ratio is found among twins than of those born singly. The same source has established the physical inferiority of twins as compared with single-birth children. Among the relatives of imbeciles and idiots, twin-bearing is quite common. Dr. Napheys says that "in fact the whole history of twin births is of an exceptional character, indicating imperfect development and feeble organization in the product, and leading us to regard twins in the human species as a departure from physiological law, and, therefore, injurious to all concerned. Monsters born without brains have rarely occurred except among twins." From these considerations, it is

fortunate that so small a proportion of the children born are twins. The twins form only a little over one per cent. of the entire number of children born.

But little is known of the causes which lead to this abnormal child-birth. Science as yet has failed to give any satisfactory solution of the fact, and contents itself with calling it a "freak of Nature." But as Nature does nothing by accident, there must be a combination of forces by which this departure from the general rule is brought about. The cause of the dual birth is by some thought to be due to the father, by others to the mother. Facts prove that it may be due to either. Observation favors a hereditary predisposition to this form of prolific child-bearing. It seems to be peculiar to some families. This may be seen in the fact that a woman who has had twins by one husband, has also had twins by another, and even by a third. Cases of the kind are on record. The husbands, having been previously married, had never known but a single birth with their former wives. The same evidence of family trait has also been noted in the case of men who, no matter how many different wives they may have, always have twin births. A case in point is that of the countryman who was presented to the Empress of Russia in 1755. He had been twice married. With the first wife he had fifty-seven children in twenty-one confinements. The second wife had thirty-three children in thirteen confinements. At no confinement of either wife was there born less than two children.

Second Pregnancies.

A question of some importance in this connection is: Can a woman who is pregnant conceive and devolop a second child at the same time? This phenomenon is not uncommon among the lower animals. Among dogs, for example, it has often been known that the mother has bred pups of entirely different breeds at one litter, proving that one conception may follow another and both develop into maturity. The same has been observed among swine. Mares have been known to bear twins of which one was a horse and the other a mule. In the human family, cases are on record where a woman has borne twins, one white and the other a negro, the result of coition on the same day with two men of different race. Dr. Henry relates a case which happened in Brazil, in which a Creole woman gave birth to triplets of three distinct races, one white, one black and the other brown, and in each child there was the distinguishing characteristics of its race.

In all these instances, the evidence is that conceptions followed each other very rapidly, that the offspring were developed synchronously and born at the same time. But there are examples on record of second and concurrent pregnancies in which several months intervened between the dates of delivery, each child having all the evidences of a fœtus at full term. Mary Anne Bigand, at the age of thirty-seven, on April 30, 1848, gave birth to a living boy at full term, and on September 16 following was delivered

of a living girl, which had the perfect development of a child at full term of gestation. This case is authenticated by the testimony of Professors Eisenman and Periche, surgeon-majors of the military hospital of Strasburg. It will be seen that an interval of four and a half months occurred between these two deliveries. The first child lived two and a half months, the second a year. The death of the mother occurred soon after. An examination showed that she had but one womb instead of two, as had been supposed, so that these two children had been developed at the same time in one womb.

Benoit Franquet, of Lyons, relates a case that came under his own observation. On January 20, 1870, he delivered a woman of a child, and in five months and six days afterward he delivered the same woman of a second child. In both cases the children were fully developed, and bore the evidence of birth at full term. This case is well-authenticated, having been presented to two notaries at Lyons, MM. Caillot and Desurgey, with the certificates of their baptisms, that the singular case might be placed upon record for the benefit of the medical and legal professions.

These, with similar cases that might be cited, leave no room for doubt that an interval of several months may elapse between the births of children that have been developed in the womb at the same time. The question remaining to be settled is : Were these children twins ? Were they conceived at the same time and the growth of one so retarded that it required the longer time for its

maturing? Or did a second conception take place at an interval of several months after the first? If it be granted that a second pregnancy can occur, then the second child of Mary Anne Bigand must have been conceived after the quickening of the first child. This must lead to the admission that two children of different ages, begotten by different fathers, may exist in the womb at the same time. The question is much complicated. The truth seems to be that though we have the preponderance of evidence, that, in very rare instances, a second conception may take place during pregnancy, yet such a theory is at variance with the whole economy of the reproductive process and irreconcilable with reason. It would require much fuller evidence than is now attainable to firmly establish the hypothesis. It is more consistent with our present information of the laws of reproduction to assume that both children were conceived at or about the same time, and that for some unknown cause, the development of the second child was retarded.

It is no uncommon occurrence in the case of twins to find one child strong, vigorous and well-matured, while the other shows all the indications of a child prematurely born. A few years ago a physician was called in a case of confinement. He delivered the woman of a healthy child, apparently well-developed. He left the house with the feeling that everything was doing well and no trouble could arise. A week later he was called to see the same woman and delivered her of a second child, not fully developed and still-born. There was every indication of

several months' difference in the ages of the children born so near each other, but this was not sufficient grounds for assuming anything but that they were conceived at the same time. It sometimes happens in the case of twins that one may be born from one to two months prematurely and the other carried to the full term. This is much more easily accounted for than where the first birth is mature and the second apparently immature. The only explanation that seems to satisfy some minds in cases of the sort is that the conception of the second child was subsequent to that of the first by almost the difference of months. To support this hypothesis, some very singular and really wonderful cases have been adduced.

There are instances upon record in which the second conception attached itself to the first, thus presenting the phenomenon of the growth of a child within a child. A Geneva journal records a case in point: A correspondent of *The Dantzic Gazette*, says that on Sunday, February 1, 1869, at Schiliewen, near Dirschan, a "young and blooming" shepherd's wife was delivered of a girl otherwise sound, but having on the "lower part of her back, between her hips, a swelling as big as two good-sized fists, through the walls of which a well-developed fœtus may be felt. Its limbs indicate a growth of from five to six months, and its movements are lively. The father called in the Health Commissioner, Dr. Preuss, from Dirschan, and begged him to remove the swelling, together with the fœtus. The doctor, however, after a careful examination, declared that there was a possibility, in this extraordinary

case, of the child within the swelling coming to maturity. Its existence and palpable motions were apparent to all present. No physician could be justified in destroying this marvelous being. It ought rather to be protected and cherished. The new-born girl, notwithstanding her singular burden, is of unusual strength and beauty, and takes the breast very cheerfully."

Some further information in regard to this singular phenomenon is reported in *The Weser Zeitung*, of February 20, 1869. It quotes from *The Dantzic Gazette* some remarks that were made by the Health Commissioner, Dr. Preuss, of Dirschan, in which he reaffirms the facts given in the preceding report. He said he was summoned on the first of February to the child, and saw the vigorous movements and felt the members of the fœtus within the swelling as described. "It was evidently a double creation. The case thus far, though rare, is not the only one. But what is unusual and hitherto unknown in medical literature is the fact that the girl, which has been carried the full term of gestation, is alive to-day, but the fœtus within the swelling has also, in the eleventh day after birth, further developed and palpably increased in size. The swelling is now four and one-half inches long, three and one-half inches wide, high and pear-shaped. The head lies underneath on the left, the body toward the right."

This is the latest information with regard to this remarkable case to be had. It has been reported that the child, or children, were taken by special request before the Nat-

ural History Society of Dantzic, and the mother had gone to Berlin for medical counsel. It would be very interesting to have the sequel to this case, but, unfortunately, it is not to be had at present. It certainly is the most remarkable on record.

Moral Aspect of the Subject.

This question of dual conception has a moral and economical aspect on which may depend the peace and comfort of a family. On its issue may depend the honor and chastity of a wife, both with reference to her husband and to the community. She may have conceived by her husband, and he, after that event, may have lived in absolute continence. Perhaps he may be absent from home during the entire period of gestation. If the wife then be delivered of children at an interval of say two or three months, the question whether these children were the product of one conception or of two, becomes one of grave moment. It involves the wife's fidelity — if the theory advocated by some medical authorities be true, that a conception may take place two or three months subsequent to the first. If it be granted that such an after-conception can take place, the instances in which it has been done are so very rare, that it weakens the belief in its possibility at all.

Since it is only an assumption, after all, it is far better for the peace of a family and for the well-being of a community to adhere to the most favorable theory, namely, that these conceptions took place simultaneously, and

that, for lack of nourishment or for some other reason, the development of the one fœtus was delayed. It is opening a way for unjust accusations of a faithful wife, and involves matters of relationship and heirship that are perplexing.

What May Be Known of the Sex.

Can sex of the child be foretold? There are always to be found gossipy old women who aver that they are able to tell precisely what the issue will be. When asked by what means that can be determined, they will reply that they know by the shape of the mother's abdomen. It must be confessed that some of the guesses made on this basis have proved correct. Notwithstanding, it is certain that there is no trustworthy evidence that the sex of the fœtus has anything to do with its position in the pileus. All guesses on this basis are mere conjecture, nothing more. Wives, too, sometimes think they can determine the sex by the nature of the movement of the fœtus. They affirm that boys are much more active and stronger than girls. In this mode of pre-determination, it rarely turns out as the mother has said.

But there is a way by which the wife can determine the sex of her child with considerable certainty. It is by observing the time in her menstrual month in which the conception took place. It has been explained on another page in this work that if the conception take place immediately before or soon after the menses, the issue will be a girl. If, toward the end of the fruitful period, it will be

a boy. In general, the rule is, conception before the menstrual flow produces a boy ; after, a girl. This is the mother's way of determining the sex of her unborn child, and it is reasonably trustworthy.

Some physicians who are well-skilled in the use of the stethoscope, and possessed of sufficient keenness of ear to distinguish a difference in faint sounds, can determine the sex of the child in the later months of pregnancy. It is by noting the pulsations of the fœtal heart. The average number of pulsations in the heart of the female fœtus is one hundred and forty-one, while that of males is only one hundred and fourteen. There is sufficient difference to allow a detection, though it requires careful observation. If the pulsations exceed one hundred and thirty, the child will certainly be a girl ; if under that number, it will be a boy.

By this same method, also, the presence of twins in the womb can be determined with absolute accuracy. When the physician, with the aid of the stethoscope, is able to detect the pulsations of two hearts, one on either side of the abdomen, the evidence of the existence of two children is conclusive. Except to the mother who carefully notes the time of conception, and to the expert physician in the later months of gestation, nothing can be determined with any reliability concerning the sex of the child before birth. But the methods here stated can be adopted with considerable confidence.

Hygiene of Pregnancy.

A woman in reasonably good health and living in harmony with the ordinary laws of hygiene requires little change in her conduct during pregnancy. If she have a vigorous, healthful life, prospective maternity need give rise to no gloomy forebodings. The ordeal is certainly a trying one, but it contains none of those terrors and impossible feats of physical endurance with which the expansive fancy of some gossipy house-wives delight to clothe it. If it be a first child, it is advisable that the wife disabuse her mind as far as possible of all the sufferings and dangers which she must encounter. This will be no easy task. The difficulty is greatly enhanced, especially in rural neighborhoods, by the propensity of other women to talk to such wives about the future.

These gossipy matrons, good but unwise, seem to take special delight in dwelling upon the horrors of confinement, labors and birth-pangs. They themselves have borne children, and the magnifying of the birth process seems to give them a standing in their own eyes which they desire to suitably impress upon the new candidate for maternal honors. They say, in effect: "The birth of a child is a tremendous undertaking. It requires the expenditure of incalculable fortitude, strength, labor and suffering. We have borne several children, and, therefore, you ought to look upon us with something of respect and veneration." All this is well enough, and true enough, after a manner; but it has a depressing effect on the

young wife. It leads her to look forward with anxious solicitude to her confinement; to brood over its most uninviting aspects and to worry herself into the worst possible condition for meeting the demands of child-labor.

It is very simple, but it may help young wives, to remember that they are not to endure the trials of child-birth until they shall be confined. There never was and there never will be a child born without pain. This is axiomatic. But the ordeal is not the terrible excruciation which excited imagination may paint it to be. The reasonable thing for the prospective mother to do is to have herself in the best possible physical condition for her confinement. She can, in a great measure, mitigate the trials of that event, and almost wholly eliminate the element of danger from it. To the attainment of this desirable condition, it is advisable for her that she talk as little as possible with other women about the coming hour. Let her think as little as possible about it. It will come, and come soon enough. Her husband, her mother, and her physician are her best confidants and counsellors. Let her remember, too, that the great God, who orders all things below, has appointed His way of bringing men and women into the world; He is wise and good, and lays no burden on any of His children greater than they can bear. Let her occupy her mind with the present, not the future. When the mind forges ahead, let it leap beyond the few hours of pain, and dwell on the permanent and fathomless joys and blessings of maternity. Her present care should be to keep her strength and promote her health.

A reputable author says: "Those ailments to which pregnant women are liable are most of them inconveniences rather than diseases, although they may be aggravated to a degree of real danger. Arising as they do from the temporary condition of the organism, what they require is, not such medical treatment as may be needed for a true disease, but rather a general hygienic regimen. For a similar reason, while on the one hand it may not be possible to remove them entirely, yet, on the other they can almost always be alleviated. In general, however, it may be first observed that such a way of living as shall maintain and elevate the standard of general, mental and physical health, will, of course, increase the power of resisting and surmounting all ailments whatever."

Pleasant Surroundings.

At first, pleasant surroundings are essentially necessary, both for the health of the mother and the good of the child. This need not imply wealth or luxuries, but merely desirable and agreeable companionships, a comfortable home, and freedom from exhausting toil and distressing anxieties. Many persons are now suffering from a lack of vitality which is a direct result of the overburdening of women during pregnancy, and by the trials and privations endured by the early settlers of the country. The breeder who desires a fine, healthy, well-developed animal, is specially careful of the dam while she is carrying it. An equal regard for the well-being of his children should persuade him to care for their mother

during the time of her pregnancy. The superior place which human beings hold in the world, and the father's own relation to his children, ought to be sufficient to incite him to the greatest possible care of the mother during gestation. A prudent regard for the future should also prevail. When a child is born dwarfed, deformed, or enfeebled, and grows up to maturity to discover that he owes his unenviable handicapping for life to the lack of care bestowed on or by his mother while he was in her womb, what must be his feelings toward that parent? Looking beyond and above this, what must be the regard placed upon such carelessness by the great Author of Nature and the promulgator of Nature's laws.

The responsibility which rests upon parents concerning their offspring extends farther than mere physical being. It reaches to the intellectual character and moral bias of the child. These are largely predetermined by the conduct of the parents, and especially of the mother. The child's future depends upon her during the time the child is a part of herself. She is not an independent being, with no one to care for or think about but herself. Another life is developing within her. It is now identified with herself and inseparable from her. But a time will come when it will have an independent existence. She is a mother from the moment of conception. While the child remains a part of herself, it is so delicate and frail that it requires even greater consideration from her and more careful attention than after birth.

It should be the mother's ambition to bear healthy,

well-formed, intelligent children. It may be safely assumed that such is the desire of all mothers. It is possible that this be done almost without exception. And, yet, how few mothers there are who give to the conditions under which such desired offspring are possible a heed sufficient to make the end attainable. The country is full of ill-formed, half-developed men and women, and children are being born every day that are puny, weak and deformed. This is the result either of ignorance on the part of the mothers of the influence they are able to exert over their unborn babes, or of a criminal neglect of the means by which such result could be avoided.

Food.

During gestation the wife should pay considerable attention to the food she eats. The supply must be abundant, of good quality, nourishing and blood-making. The necessities of the case demand this. She is made, through her digestion and nutrition, to do double duty — for herself and for a rapidly-developing being within her. The quantity should exceed what she is accustomed to in ordinary circumstances, and yet not be excessive. Overloading the stomach either with food or drink interferes with its natural action, and, hence, defeats the very end aimed at. More frequent eating, rather than a larger quantity at regular times, is preferable. The food should be good, plain, highly nutritious, and confined to such articles as are found to be most agreeable to the stomach. This can be determined only by actual experience. No

general directions can be given that would be of practical use. Animal food, tender and well-cooked, is generally suitable to all wives in pregnancy. It is rich in certain constituents necessary to meet the demands of her system at this time. Vegetables of good quality and ripe fruits are always desirable, especially if there be a tendency to constipation, as is most frequently the case. Porridge, or a diet of cracked wheat, is often a sufficient laxative diet, and is nourishing as well.

Many women suffer excessively from paroxysms of hunger which attack them in the night. Provision should be made for these, by having at hand some light biscuits and a bowl of milk, placed so conveniently that there need be no necessity for arising from the bed. These cravings are often for some particular kind of food. As far as does not interfere with the general health, this desire should be humored. "It is a curious fact," says a writer on the subject of food, "that the modification in the digestive system during pregnancy is sometimes so great that substances ordinarily the most indigestible are eaten without any inconvenience, and even with benefit, while the most healthful articles become hurtful and act like poison." As the fœtus develops, its demands for support will correspondingly increase, and a larger quantity of food will be found necessary for the mother.

Clothing.

The style and manner of adjusting the clothing during this period is a disideratum. There are few other things which have a greater bearing upon the comfort of the

mother and the good of her child than the one named. Some mothers, particularly young ones, will wear corsets and have them laced so as to seriously interfere with the easy and natural enlargement of the abdomen. This is not only foolish, a prompting of pride, perhaps, to conceal the condition as long as possible and as far as possible from others, but it is also hurtful alike to mother and child. It is a false modesty which prompts a woman in honorable wedlock to attempt to cover the fact of pregnancy. There is no man or woman in society whose opinion is worth considering who will criticise a wife who is thus fulfilling one of the highest ends of her nature. True modesty and delicacy are intimately associated with honesty. The efforts of the mother to deceive her friends regarding her condition can very rarely succeed, and the feeling of repugnance at the palpable cheat goes far toward counteracting the respect and reverence her condition otherwise would command.

The French term *enceinte* was originally applied to pregnant women from a habit of laying aside the belt or girdle which they were otherwise accustomed to wear; hence, the term *enceinte* means *to be unbound*, and has come to be applied to women in ante-confinement motherhood. Loosening the girdle was for the purpose of allowing the free and natural development of the fœtus, and the enlargement of the mother's abdomen. The same necessity exists now as formerly for this wise provision. While there is no demand that the mother make an undue advertisement of her state, which would be as immodest

as the attempts at its concealment, it is eminently desirable that her dress, especially about those parts of her body which are the regions of procreative life, be worn quite loosely. This can be done without surrendering up all neatness and taste The Spartan mothers were compelled by law to wear loose clothing during gestation, the theory being that as the future of the State depended upon the character of the children which were born to it, the State had the right to protect itself by compelling its women to produce the best of which they were capable.

The wearing of stays during this time may be attended with serious consequences. Should they be worn, however, they should be as loose as possible, and so constructed as to readily accommodate to the changing figure. No irregularity should be allowed, as this will bring irregular pressure. The breasts especially should be free from pressure, as in their enlarging and often irritable condition, abscesses and excoriated nipples are likely to be the result. One experience with sore breasts will be sufficient for any woman who survives it to effectually warn her against any actions on her part that are liable to bring a repetition.

The weight of the clothing worn is no inconsiderable matter. The state of the weather will have something to do with the quantity of clothing, but its quality can materially lessen the weight. The circulation of pregnant women is often not so good as at other times, and consequently there is a tendency to coldness. This must be guarded against. It can be done, however, without in any appre-

ciable degree increasing the weight of the dress worn. No fabric meets all the demands so fully as flannel, especially for under-garments. It is warm, porous, and comparatively light in weight. Worn under loose over-dress, it permits the free circulation of air from and to the body, and is thus a most effectual preventive of rheumatism of the womb and kindred affections. During the later months there is more or less pressure upon the vessels which distribute the blood to the lower limbs. This is caused by the advance of the enlarging fœtus. An additional obstruction to the already impeded circulation by closely-fitting dress should by all means be avoided. It is not unusual to find women whose veins are enlarged and knotted. Very troublesome ulcers may be developed which seriously interfere with locomotion, if they do not prevent it entirely. The bands on the lower ends of the drawers and the stocking-supporters should be as loose as possible. These girdles act directly in impeding the circulation, which already is hindered. Comfort is a very good guide in matters of dress.

Exercise.

The innate modesty and a decent regard for public esteem will lead women to withdraw very largely from the public during the ante-confinement period. Their condition also necessitates that they receive more care and attention from others than is necessary to be bestowed at other times. While these things are so, it is not to be advised that too-close confinement to the house and

especially to comfortable reclinement be pursued. Some women never allow themselves to be seen or to appear outside their homes during the later months of gestation. They will spend the time upon an easy-chair, and demand and receive a large attention. This is dangerous to both mother and child. Such confinement has the tendency to increase the natural disposition to irritation and nervousness, even to engender a spirit of unrest and melancholy, to the discomfort of the entire family. Nothing is more beneficial to women in this condition than abundant gentle exercise in the open air. Pure air and sunshine are the great life-giving principles of Nature, and contribute more to cheerfulness and happiness than anything else. In a sense, it is as necessary for the good of the unborn child that its mother have pure air and sunshine as it is for the immature fruit of the tree and vegetable that the parent stock be supplied with these factors.

This open-air exposure is best and most safely taken on foot. It should never be extended to the limit of fatigue. Too-active exercise, especially if it extend to roughness, such as running, jumping or dancing, should be strictly prohibited. Horseback riding, going in a vehicle over rough roads, and lifting or carrying heavy burdens, are to be avoided scrupulously. Any of these forms of exercise tends to produce miscarriage. Miscarriage is always to be dreaded, and it is particularly liable to occur in the earlier months. Very extended journeys by any mode of locomotion are not to be undertaken. They are neither good nor safe. Embarrassing and dangerous

circumstances frequently arise in such protracted travel. A peculiar condition of the nervous system is created by the vibratory motion of railway coaches or even on street cars, which induces vomiting. This vomiting may rupture the very delicate membrane by which the fœtus is attached to the inner surface of the womb. The result is inordinate flooding, followed by miscarriage.

Common sense and a proper comprehension of her condition and the capabilities of her strength, will be a sufficient guide to the wife in the matter of exercise. It is enough that she be advised that abundant exercise, gentle and exhilarating, and in the open air and sun, be taken. The amount of this exercise should differ with different women, as should also its quality. What may be needed by one is hazardous to another. Premonitory sensations will be a sufficient warning to the mother when she is exceeding or approaching the confines of safety. It is advisable that she always be in such situations that she can at once cease her exercise and secure rest and quiet on the approach of these warnings. This she cannot do unless she remain near her own home, and it is for this reason, among others, that long journeys are to be discouraged. The first approach of fatigue should be the signal for the discontinuance of the exercise at that time. Frequent short walks are, for this reason, better than long ones. Exercise of any sort, at frequent intervals, is, for the same reason, to be preferred to the same amount of exercise taken at one time.

Exercise in pregnancy, as at other times, is always

more beneficial if the surrounding circumstances be pleasant and agreeable. Exercise, for the mere sake of exercise, is likely to be irksome. For the woman to start out upon a walk with no purpose in view save to go so far and consume so much time, is likely to defeat the principal end to be gained by it. Let there be an object, an ulterior purpose, if possible, in the exercise taken. Pleasant and enjoyable company is an excellent factor. Topics of conversation should be such as will take the mind away from unpleasant matters and lead to self-forgetfulness as much as possible. The surroundings of the walk should not be unpleasant. The scenery has a direct effect upon the spirits, and these act indirectly upon the mother and the child she is developing.

With many women the inclination to indolence and inactivity during gestation is great. It requires effort to overcome, but it should be resisted. A woman may, with benefit and safety, attend to many of her household duties. In most cases it is far better for both herself and her child that she do so. It is natural for her to continue in her accustomed duties. She is more interested in these, and will take more pleasure and find more rest to her mind to do them herself than to sit about idle and see strangers taking her place. She is more easily led to self-forgetfulness in the performance of accustomed exercise than in something that is new and unusual. The extent of the household duties performed depends upon the constitution and health of the patient. If she be delicate and nervous, very little labor can with safety be performed.

As she nears the end of her pregnancy, the duties should be abridged, and all her strength saved for her labors. It is not to be assumed, however, that indolence or entire inactivity are most conducive to this end. On the contrary, one is made strong by feats of strength; able to endure by enduring. The general principles of health and strength are not made inoperative in the case.

Ventilation.

In reviewing the general subject, it is difficult to determine what is the more important factor. As each is considered it seems to loom into pre-eminence. But, all things considered, pure air is the most important concomitant to be secured. This, of course, is not confined to the time spent outside the house. That is only a small part of the whole time. The larger part of even the waking hours must be passed in the house. This necessitates care for the proper ventilation of the rooms in which the time is spent. The sitting-room, and especially the sleeping-room, should be constantly exposed to a full and free circulation of pure air. In certain seasons of the year, this will require no little attention. In cold weather the inclination is to have the room very close, in order to maintain sufficient heat for comfort. In warmer weather the doors and windows will be kept open without inconvenience. It is desirable, even in extreme weather, that the rooms be thoroughly purged several times each day by opening doors and windows. The mother can withdraw into another apartment during this process.

Extremes of heat and cold must be avoided more carefully now than at other times. Plenty of light and, if attainable, an equal abundance of sunshine, should flood the sitting and bed rooms. It was an excellent custom among certain of the ancients, to have constructed on the tops of their houses a solarium, or air-bath chamber, to which they repaired daily. Persons who have had no experience with this remedial agent in serious and protracted ailments will be surprised at the benefits it confers. It certainly argues little for man's wisdom and prudence as regards himself, that with constant exhibitions of the value of sun and air in the vegetable and lower-animal worlds he should give himself so little benefit of the lesson taught.

Care of the Nipples.

Too little prominence has been given by writers on this subject to the care that should be given to the nipples during pregnancy. As a result, these organs are generally allowed to take care of themselves, and the consequence is that lying-in women are often greatly troubled with sore nipples. It is the general rule with the first child that the mother will have trouble on this point, unless she have previously given her attention and care to her nipples. All this can easily be averted by a little care during the last three months of pregnancy. Take a small piece of alum, the size of an ordinary hulled hickory-nut, and dissolve it in two ounces of soft water. Add to this solution two ounces of alcohol. Bathe the nipples with this

decoction from two to four tin s each week for the last twelve weeks before confinemen It is a good plan, too, to thoroughly rub the nipples with the thumb and fingers, working them as the action of suction will after awhile. This manipulation should be begun gently at first and gradually increased, pulling out the nipple as if extracting milk. This will serve to harden the skin and also to draw out the nipple, so that the child will find no difficulty in nursing. These little attentions require but a few minutes each day, and will amply repay all the trouble expended.

Bed-chamber.

The bed-chamber should be ample enough to contain two beds, one of which the wife should occupy alone. It is better for her that she sleep alone rather than with her husband during this period — and this for the reason that marital intercourse should be limited very greatly, both for the sake of the wife and for that of her child. It is not best that the wife occupy a room by herself, as something may occur during the night — an accident, or some attention may be needed which her husband can render. This chamber should have a southern exposure, if possible, and must certainly be so arranged as to admit ample ventilation, and yet not be subject to draughts. This room should be kept free from all confusion of furniture, and, above all things, should have a cheerful look. If pictures and other ornamental works of art can be arranged about the walls, so much the better. Everything of a gloomy cast or suggestive of discomfort and

disorder, should be carefully excluded. The mind of the wife will take on the impression of what the eyes reveal, and the state of the mind will be surely impressed upon the child's mind and disposition. It is because of this latter fact that so much emphasis is laid upon these minor details.

Company.

Cheerful company is a consideration of no trivial importance. The wife's mind should not be given to any intensity of thought during this period. It should be kept as much as possible from serious reflections on her own condition. Pleasant, bright, cheering companions are a great help in this direction. Both husband and wife should be more careful now than at any time as to who shall see and converse with the wife. Some people are "great company," but not at all suitable for this time. Others there are who are like a refreshing summer shower; one scarce knows what they have said or done, but they bring with them a delightful atmosphere, and leave an aroma of exaltation that is peculiarly beneficial to a pregnant woman. Such companions should be encouraged in their visits. They will be able to prevent the introspection of the wife which so easily leads to melancholy and despondency, and they will, at the same time, impart a charm that cannot be defined or measured. They inspire hope and encouragement. They raise the spirits and animate the heart. There are few women who have not friends of this sort. Now, if ever in her life, is the time

when the wife has the indisputable right to select her companions. This privilege she should exert to the fullest extent. The husband is justified in excluding from his wife's company any and every person, no matter how intimate the relationship that may exist, whose influence is not good.

Gratifying Her Fancies.

Women are full of fancies in this period. They will often be assailed with an intense desire to secure something that they do not have. Often this takes the direction of some peculiar article of diet. An instance is that of a woman who was eager for some particular sorts of animal food. Her appetite was not good, but she was certain if she could secure this or that meat, it would be to her taste. She finally was seized with the notion that she must have a common meadow-lark. Her husband attempted to deflect her mind, but it persistently returned to the one thing. Eventually he killed and had dressed and cooked a lark, when his wife found that she could not eat it at all. As a general rule, however, it happens that these intense desires for a kind of food are not detrimental to health. In such cases it is always desirable to gratify the woman. These are but whims, of course, but where their gratification does no harm, it is best to humor them. It tranquilizes the mind. If the fancy should take the direction of something which it is undesirable to have, the husband can, if attentive and persistent, direct the mind for the time, and the probabilities are that the whim can

be conjured away. The whole aim should be to prevent the wife brooding over any matter, however trivial or foolish it may seem to the husband. He must remember that she is not herself, and must be as patient and forebearing with her as with a feeble child.

Influence of Inheritance.

This subject is so full of interest, and includes such a broad field for thought, that its full discussion would be impossible within the scope of this work. It introduces many very singular facts that have a direct bearing upon the welfare and happiness of every individual, and for the better comprehension of that part of the subject pertinent to the present inquiry, it will be well to define some of the principal modes of inheritance.

First—Direct inheritance, or the qualities that the child receives from its father and mother.

Second—Indirect inheritance, in which the child bears a more striking resemblance to some uncle or aunt than to either its father or mother.

Third—Atavism, which is defined by Webster to mean: "The recurrence of any peculiarity or disease of an ancestor in a subsequent generation, after an intermission of a generation or two." Thus a child not unfrequently exhibits some peculiar characteristic of its great grandparent that was wholly lost in its parent. This peculiar feature, no doubt, has been met by many observers in the mixture of African and Anglo-Saxon races.

A fourth variety is that in which a child resembles neither of its parents, but some of its mother's intimate friends. This peculiar kind of inheritance is doubtless fraught with greater evil to the comfort of families than any other we have mentioned. A woman, by a subsequent marriage, may transmit the peculiarities or diseases received through her previous husband. Thus may the misfortunes of a man be transmitted to children that are not his own, and even a dead man may exert an influence over the future offspring of his wife, by means of the ineffaceable impress he made upon her in the conjugal relation. Lady Montague said: "It goes far toward reconciling me to be a woman, when I reflect that I am thus in no danger of marrying one." I would substitute "man" for "woman."

This species of inheritance is a two-fold character, embracing misfortunes and diseases that may be the result of taint of blood, or impressions received through mental influences or accidents operating through the mother. A child may be born idiotic or deformed, not because either of its parents or any of its ancestors were thus afflicted, but from the effect of some mental shock upon the mother during her pregnancy. Again, a child may be born with the silly, staggering appearance of a drunkard, or constant twitchings and irregular movements of the voluntary muscles resembling chorea. But such cases are not hereditary, for that cannot be hereditary which was not possessed by either parents or ancestry. Having thus defined these several kinds of inheritance, let us examine the effect they exert upon the physical economy.

Misfortunes that May Happen the Child Through the Mother.

An observance of the rules hygienic is not only desirable because it conduces to the greater comfort and safety of the wife and her child, but because of the dangers to both herself and her child through neglect of such rules. Women who are careless in this regard during pregnancy often have to suffer for it directly, but oftener in seeing the results of such neglect stamped indelibly upon their children. Nothing is more essential for the future good of any child than that it be born with a vigorous constitution. This it can only hope to have by the most careful attention of the mother to herself before the child leaves her body. The strength and durability of any structure depends largely upon its foundation. The constitution is the foundation of the child's life and health. This quality is largely inherited. True, much may be remedied and built up, even as a poorly-built house can be patched and propped into something like substantiability. But it is not wise to lay a poor foundation either in a child or a house, and certainly not to calculate to repair it afterward.

The wife of the laboring man, realizing the necessity of living in the most economical manner, performs the severest drudgery in the midst of aches and pains and at the expense of a child's health. Many women, it is true, will tell you that they never felt better able to perform their household duties than when carrying their children. They are not aware of the fact that their condition too

frequently gives them ambition beyond their physical strength, and they are thereby stimulated to use their strength at the expense of that of the child. How often have I heard a mother exclaim, upon beholding her puny, little, new-born babe: "Why, how little and trifling it looks. I thought it would be big and fat, for I felt so well all the time and did so much work." The poor woman did not know that she had done "so much work" at the expense of the well-being of her child. I cannot refrain from introducing a case related by a worthy member of the profession to illustrate more fully what I mean. He said: "I am acquainted with a charming old lady, whose seventy-eight summers have left her in possession of health and happiness as a heritage of a well-spent life. In talking of those things, she says: 'Why is it that my daughters have no powers of endurance? Their father was never sick. My own health and strength have been a marvel to every one. Why, the three girls together cannot do the work I could when I was their age. Why, what would have become of us if I had been lying around in silk wrappers and satin slippers, dosing with drugs, as my girls do?' The poor old woman told the story. She robbed them of their inheritance by using all her vitality in her daily avocations, and they must suffer for her wrong-doing."

Many mothers overtax their powers during pregnancy simply because they can do so without feeling any inconvenience. They forget that they are doing double duty at this time, and the draught made of their surplus vitality

goes, or should go, to their children. If it be expended in other ways, the children will suffer, and will show it at birth by weak constitutions, and throughout life by being imperfectly equipped for the great demands that life brings to every one. Moreover, there is a moral responsibility resting upon every mother to give her children the best heritage she has to bestow. Nothing can be better than a sure health-basis. It appears to a careful observer that the generation now growing up has received more care in these regards than that which is passing away.

Mothers are becoming wiser and better acquainted with the duties and responsibilities of maternity. The old generation, some remnants of which are still to be seen, gave evidence of a too-hardy existence in its progenitors. Mortal diseases are more common than ever before, and many more victims are being carried away in the very midst of life. Longevity is less extended than it was fifty years ago. Fewer persons reach the average three-score and ten years of human life, while the chance four-score age is rare enough to evoke remark. It is believed and fervently hoped that the children of to-day possess better constitutions than their parents received from their progenitors, and that the standard of longevity will be raised in the years to come.

Unnatural Developments.

Anatomical peculiarities upon the body of the child are often produced by mental impression received on the mind of the mother during pregnancy. This is denied by

some physiologists, who maintain that such defects, marks or deformities are more the result of inheritance. Careful observation, however, leads to the conclusion that many such phenomena are due to forces that have their origin in the mind, life and habits of the mother while her child is developing within her womb. The writer was present at the birth of two children which belonged to two different families that were in no way related and did not live in the same part of the country. Both children were devoid of all that part of the head extending above the eye-brows. The bones of the skull in each appeared to have been cut off, as if for the purpose of examining the brain. The brain itself appeared perfect and full size, but had no covering of bone or skin above it. There was no difficulty in either case in discovering the probable cause of the deformity. It was the same — an impression made on the mother's mind during gestation. Cases of club-feet, malformed fingers or toes, etc., are generally attributable to causes of this kind. Every physician is familiar with instances to prove this.

A well-authenticated case illustrates the point in hand in a horribly clear and pointed manner. It comes from a small town in New Jersey, where a child was born some two years since, having all the symptoms of intoxication. At this writing the child is over two years old, well-formed, entirely healthy, with no mental defect apparent. The physicians explain that there is no evidence of catalepsy, that there are no fits, no convulsions in the case, whatever. But there seems to be no co-ordination in the

movements of the lower limbs. The child's gait is heavy and insecure — a regular drunken reel or stagger. The speech is not only thick, incoherent and rambling, but has all the phenomena of exhilaration and excitement characteristic of the earlier stages of intoxication. The ideas seem to flow rapidly, the senses are acute, but there are the muscular tremblings and the actual shambling gait of the drunkard.

This abnormal condition is thus explained, and satisfactorily: During the pregnancy of the mother she was one evening called to go to market. She had been married but a year, and she and her husband were greatly attached to each other. She believed him to be temperate; indeed, never had a thought to the contrary. She was compelled to pass a grog-shop on her way, and as she came to it she heard a voice that was strangely like her husband's, singing a ribald song. She was so struck with astonishment that she involuntarily looked in at the door, not to verify, but to remove the unpleasant suspicions which the familiar voice created. There she beheld her husband in a state of hilarious intoxication. This was but a few weeks before the birth of her child. It was a boy, and seemed physically perfect and well-formed. He soon developed the peculiarities noted, which he will no doubt carry with him through life. It is one of the most singular cases on record, and can be accounted for on no other hypothesis than that the impression of horror made on the mother's mind was conveyed to the fœtus within her womb.

Birthmarks.

Birthmarks, as they are commonly called, are traceable to the same cause. This subject is treated at some length in another part of this work. It is only necessary to refer to the matter here as an additional reason why wives should be careful during the pregnant period, and as a reason why such women should be surrounded by cheerful and pleasant pictures. All the environments have an influence, but those which are startling are most likely to be reproduced in the child. Indifference and nothingness should not possess the mind ; these will surely characterize the child, and they are undesirable qualities.

The influence of the mother's mind on the child *in utero* being conceded, as it must be by any one who has made any extensive study of the subject, the question will arise as to the power of this influence to determine the physical features of the child. If the constitution and physical development of the child depend so largely upon the mother, why may not its features ? There exists no reason to deny this theory. On the contrary, the evidence is overpowering that such appearances can be determined to a marked degree.

Most persons are familiar with the resemblance that subsists between families from generation to generation, while it is well known that offspring inherit many of the qualities and peculiarities of the parents. Hereditary resemblance, however, is seldom ever blended, numerous differences being almost always observed in the features

and other characteristics of the same family. Male and female children seldom perfectly resemble either the father or the mother, but a blending of the characteristics of both are readily recognizable in the offspring. It might be supposed that as the mother furnishes the egg and its nourishment after conception, that the offspring would partake more of her peculiarities than of the father's. This, however, is not the fact. There will be quite as much resemblance to the father as to the mother, if such phenomena be not in favor of the former. As a general rule, it cannot be said that either male or female in the human species exerts more influence than the other in the physical and intellectual conformations and peculiarities of the offspring. In some families the children will most resemble the father ; in others, the mother's traits are the more predominant. It has often been heard of new-born children that they resemble this or that person, the reference being to friends who have been much with the mother during pregnancy, or are her most intimate and trusted friends. The proof is so conclusive in fact that it becomes almost a cruelty for the mother to allow her mind to dwell on any but pleasant subjects, or to be occupied with any but cheerful pictures.

The ancient Greeks and Romans were so fully aware of the influence of surroundings on the unborn children that the wives of the patricians were surrounded during pregnancy with the most beautiful works of art as shown in paintings, sculpture, music and architecture. The effect was that the children whose mothers were so

environed were almost invariably beautiful in features, and their minds were pure and lofty. And this without any regard to the appearance of the parents. The subject is worthy the gravest attention. It imposes a responsibility on the mother that she will do well to regard. Many a mother is made sad in her old age by the moral derelictions of the children she has borne, and yet the thought never enters her mind that she herself may be responsible for the bias with which that child's nature began.

Miscarriage.

This is one of the perils of maternity. It is not of infrequent occurrence, especially with young mothers, though it is not confined to them. It is not only to be dreaded as involving the imminent danger of the mother's life and the destruction of her offspring, but also as a most prolific source of disease.

Figures have been gathered regarding the number of mothers that miscarry before they reach the middle of their child-bearing period. It has been found that thirty-seven per cent. miscarry before they attain the age of thirty years, and that eighty per cent. of all the women miscarry who continue in child-bearing until the change to mature womanhood comes. From these figures it appears that the large majority of all wives incur this risk and disaster at some time.

Age exerts a marked influence on the susceptibility to miscarriage. Should a woman defer marriage until she

were thirty years old, she would be less liable to miscarriage than she would be were she to wait ten years longer. It is no uncommon thing for a woman to close her menstrual life with a premature birth. As women approach this period they also become more liable to bear children physically weak, perhaps deformed, and intellectually defective. Imbecility and idiocy are more generally found among children born to mothers whose child-bearing was about over. It has been observed that the men of brightest intellects are first-born children. But women are more liable to miscarry with their first child than with any other except the last.

Miscarriage is most likely to occur in the earlier months of pregnancy. The first months cover the perilous period, generally speaking. If a woman miscarry with her first child, there will be a tendency to the same trouble at about the same period in her next. Cases are known where this has occurred several times in succession. When once broken up, the miscarriage is not likely to return.

The question may be asked: How early may a fœtus live? No certain answer can be made, but, as a general rule, no child can live that is less than six months old. France had a law establishing the legitimacy and legal rights of all children born one hundred and eighty days after marriage. This would indicate a belief in the possibility of life at a very early age in fœtal life. There are some instances on record of infants that lived though born at an almost incredibly early age. Van Swieten relates the very singular case of an infant born the sixth month

after conception. The premature birth was on account of a fright the mother had at sea. The child was about the size of its mother's hand, but lived to be over seventy years old.

Professor Gunning, of New York, records the case of a woman in her fourth confinement who was delivered of a female child before she had completed the sixth month of her pregnancy. The child weighed two pounds nine ounces. The surface of the body was of a scarlet hue. It breathed, however, and a short time after birth cried freely. It was then wrapped in cotton wool, well lubricated with sweet oil, and was fed with its mother's milk by putting a few drops in its mouth from time to time.

The author delivered a woman, in her first confinement, of twins, at about the end of the sixth month of pregnancy. Neither of them breathed for several minutes after birth. They were immersed in a warm bath for some time, and, by artificial inflation of the lungs, natural breathing was eventually established. They were carefully wrapped in cotton. One of them died in less than twenty-four hours. The other lived and grew into womanhood, and still lives. The child was not weighed at birth, but at the age of three months it only weighed three pounds.

Miscarriage involves the mother in greater danger than is generally thought by women. Very many date the failure of their health from a miscarriage. Diseases of the womb more frequently result from a miscarriage than from a birth at full term. Several causes conspire to lead to this unfavorable sequel. A woman is generally delivered

with much greater difficulty in miscarriage. The membranes are tender and the placenta small. The mouth of the womb does not become so much relaxed as at full term. It therefore sometimes happens, and often, in fact, that parts of the membranes remain in the womb, only to be cast out when decomposed and wasted. This decay of animal matter is liable, to some extent, to be absorbed, thereby poisoning the system and generating disease.

Hemorrhages, also, are more likely to occur at miscarriage than at full term. The amount of blood is not so great in the former case, and consequently its loss is more severely felt. A prostration inevitably succeeds the loss of blood, from which it takes the woman a long time to recover. An additional danger is to the womb itself. It has adapted itself to the child, and to be suddenly deprived of this is a shock liable to produce trouble in the re-adjustment of the vital functions. The loss of the child at once arrests the processes of lactation. The menses soon return, and, before the woman has fully recovered her wasted strength, she may be pregnant again.

Causes of Miscarriage.

There are many causes which may lead to miscarriage. Any undue excitement or irritation of the rectum, as hemorrhoids or dysentery, if it produce great straining at the stool, often provokes a premature expulsion of the child. Excessive indulgence of the marital privilege may lead to the same result. This is by no means uncommon, especially among the newly married. This may account,

to some extent, for many miscarriages in the first year of marriage.

Lactation is very likely to produce miscarriage. A distinguished observer says that, in the analysis of a large number of cases of women who conceived during nursing, miscarriage occurred in seventeen per cent. of the cases, and in only ten per cent. where conception occurred at other times. On the strength of this fact, a woman who suspects herself of being pregnant should at once wean her child.

Any severe shock to the nervous system, such as having a tooth extracted, or other injury, any violent emotion, as anger, or joy, is liable to be followed by a miscarriage. Very violent exercise, as running, dancing, riding horseback at a rapid pace, rough riding in a vehicle, great exhaustion from over-exertion, exposure to extreme weather — any or all of these causes — contribute to the premature expulsion of the fœtus.

Symptoms of Miscarriage.

The premonitory symptoms of miscarriage are few, but easily discerned. They are pain and waste. The latter is generally the indication which first attracts the attention of the wife. She may experience no pain for several days, none, indeed, until the uterus begins to contract in its efforts to free itself of its contents. The waste may be blood, and at first very slight, merely a show, and may continue moderate for several days. It may, however, be very profuse from the first, so much so

as to jeopardize the woman's life. Sooner or later, the wasting is followed by pain, similar in kind to the pains experienced at mature child-birth, but more continuous and more exhausting. There is a watery discharge from the uterus that is often the first indication of miscarriage. It is the result of the rupture of the membranes from some accidental cause, and the liquor amnii — the watery fluid in which the fœtus is suspended — is escaping. This may continue at intervals for days and even weeks, and then entirely cease without producing any serious trouble. Again, it may be followed by the loss of blood, and eventually by the expulsion of the fœtus.

It sometimes happens that the first symptom of any disturbance is a decided chill, unattended by any evidence of cold or fever. This is because of extreme nervous disturbance. In such cases, the patient may complain of soreness, heat and pain, which are soon localized in the pelvis. The loss of blood will follow, though this may be deferred for several days.

The pain in miscarriage is variable. It may arise and be almost continuous until the fœtus is expelled. It may come at intervals from day to day for weeks. The intervals will bring such complete relief that the woman will be deceived into believing that the danger of the miscarriage is entirely over.

Preventive Treatment.

To prevent miscarriage the suggestions offered in this book on the hygiene of pregnancy should be carefully observed. Everything should be done that can be to

secure and maintain a good condition of general health. When a woman is threatened with a miscarriage, she should at once take to her bed and observe entire quiet. No risks should be taken. Too much is involved in the woman's own health to excuse any neglect or the non-use of all precautions. A ten-grain dose of Dover's powder should be taken, and the physician summoned.

Relation of Husband and Wife During Pregnancy.

The relations of husband and wife during pregnancy is a subject in which authorities widely differ. Dr. Napheys, in his "Physical Life of Woman," says: "During those days when the wife, if she were not pregnant, would have been unwell, marital intercourse should be abstained from. It is then injurious to the mother and dangerous to the life of the child, as it is liable to excite miscarriage. But if this habitual epoch of monthly sickness be avoided, there is no reason why passion should not be gratified with moderation and with caution during the whole period of pregnancy. There is one exception to be made to this general rule of conduct: In those cases in which a miscarriage has occurred in the first pregnancy, every precaution should be employed to prevent its happening again in the second conception."

Many other writers on the relation of husband and wife during pregnancy express a different opinion. They hold that absolute continence should be observed from the time that there is conclusive evidence of pregnancy.

Among those advocating this practice are to be found Mrs. Chandler, in her pamphlet entitled "Motherhood"; Dr. Cowan, in his "Science of a New Life"; Dr. Dio Lewis, in his work, "Chastity," and A. E. Newton, in his pamphlet, "The Better Way."

The complete cessation from marital intercourse is the better way. Could such practice be followed, in a generation or two it would evidence its beneficent results in a great physical, mental and moral improvement in the race. The reasons for this continence have been given elsewhere. The principle of continence is emphasized here because it is so rarely observed. Perhaps, in most cases, this is through ignorance of the injury it entails on the wife and child.

It must be conceded that it requires great firmness and self-denial on the part of both husband and wife to preserve even ordinary continence during this time. The temptations to indulgence are greater, perhaps, than at other times. Not a few persons are constrained to moderation and carefulness lest too frequent or undesirable pregnancies result. When conception is once known to have taken place, this restraint is removed and the natural inclination is to unrestricted license. This is manifestly wrong at any time, much more so at this. It is unreasoning and sensual. It is degrading marriage to a level of legalized debauchery.

Another reason is found in the fact that the good of both wife and child, especially the latter, demands that husband and wife should be unusually affectionate toward

each other during gestation. It is essential that the mother maintain a serenity of mind, but at the same time not be allowed to relapse into dullness and mental inactivity. On the contrary, her mind should be kept busily employed and healthfully stimulated. This will give her greater comfort, better health and less opportunity or inclination for brooding in somber melancholy over her condition and the prospective trials. It will, also, affect the child beneficially. It will have better health, a better disposition and a brighter mind.

It is readily perceived that this additional demand on the intimate social, intellectual and affectionate intercourse of the husband and wife has a natural tendency to stimulate amorous desires. To oppose indulgence there must be called into active exercise all the power of restraint possible. The consciousness of moral right to indulgence is also weakening on the efforts to resist. Unmarried lovers are often as strongly incited, but are restrained by virtue and the moral heinousness of yielding to desire. This factor does not exist with the husband and wife. At least, it is not often thought of.

If the husband and wife are accustomed to sleep in the same bed, the practice ought not to be discontinued during pregnancy. It certainly would aid in maintaining continence; but the mother would be less likely to maintain her serenity of mind if a change in her habits were established now. It may help the husband to restrain his desires if he remember that his wife has little, if any, desire for sexual congress during this time.

THE LITTLE TYRANT.

CONFINEMENT.

Preparation for Confinement.

THERE are certain articles of dress and clothing and dressings for the bed of a parturient woman that should be provided and be at hand when needed. She should be provided with short gowns instead of those ordinarily worn. Long gowns are an incumbrance. A proper bandage should always be made ready for use. This should consist of a piece of strong brown muslin, or, what is better, union flannel — that is, flannel made of cotton and wool. It is better made of bias cloth, as it will fit much better, and should be long enough to neatly fasten round the woman at the middle of her pregnancy. Nothing is more annoying than to find the bandage very much too long ; it can never be neatly adjusted. It should be wide enough to extend from the pubes to two inches above the navel. It is always unpleasant and injurious to the woman to have the band so wide as to compress the stomach. It should be gored so as to fit over the upper part of the pelvic bones. In short, the bandage should be so constructed as to neatly fit the mother at the end of the fourth month of pregnancy, and there will be no trouble to adjust it after confinement. The object in

making the gores is to prevent it slipping up on the body.

The child's clothing has been pretty fully described in another part of this book. There are needed a woollen roller or binder, five or six inches wide and twelve or fifteen inches in length, so as to cover the child from the lower part of the abdomen to the armpits. This binder may be made of muslin or linen, but flannel is most suitable ; a shirt of suitable demensions, that will fit neatly around the neck and sleeves, of good length, to be placed on the outside of the binder. The shirt may be made of any kind of soft material, but flannel is best ; if made of cotton or linen, it should not be starched, neither should any of the child's underwear ; the skirts are best made of flannel, and long enough to extend some distance below the feet, to protect them from cold ; the dress or gown may be made of such material as may be adapted to the season of the year and the taste of the mother.

There should be a small roll of pieces of half-worn muslin to make a compress for the child's navel.

A couple of rows of pins must be at hand, one large to fasten the mother's binder, and the other small to fasten the child's clothing.

For the bed we should have an oil or rubber cloth of such dimensions as to cover the principal part of the bed ; a piece of fine gum cloth or oiled silk about a yard square ; two or three old comfortables, and as many old sheets ; a roll of napkins, towels, or pieces of old muslin ; a pair of scissors ; some linen or yarn for tying the navel string, and a cake of fine toilet soap.

All of these articles should be prepared and laid in suitable and convenient places, so as to be at easy command. It frequently happens that the provision of these necessary articles for the bed, child and mother are deferred until they are absolutely needed, and then, in the bustle and confusion, nothing can be found in proper time. The liability to accidents in child-birth should be a sufficient warning to have everything at hand.

It is always best to give the physician and two or three lady friends, who are to be the assistants, timely notice of about the time their services may be required, so that they may arrange their business in such a way that they will probably be found at home.

The Room.

The bed-chamber of a parturient woman should be large, so as to have plenty of room for a fair-sized chamber-set. A large bed, especially, is a necessity, that the mother's position may be changed from one part of the bed to another. Small beds are inconvenient and uncomfortable, yet they are a necessity in small bed-chambers. The chamber should always be sufficiently large to afford ample room for the chamber furniture and the attendants necessary for the occasion. The room should be supplied with a commodious wash-stand, a large wash-bowl, and pitchers of water, warm and cold. The room should be so situated as not to be exposed to the smell of the victuals cooking in the kitchen. This is very frequently a source of great annoyance to the sick woman. It should

be so located as to admit of easy and thorough ventilation without exposing the wife to any undue current of air. Plenty of fresh air in the room is a necessity, but it should be so administered as not to unduly expose the patient. The room should be free from noise, quiet being a desideratum to the health and comfort of the patient. Lying-in rooms are very frequently so situated that the ingress and egress to the house must be so near the room that the patient's rest is continually disturbed by the noise.

The Bed.

The bed should have a good mattress of hair, wool, cotton or husks. Straw ticks and a feather bed are very objectionable. The mattress is to be covered with the oil or gum cloth. This is a part of the permanent dressing, and should be fastened to the mattress, so as not to become displaced. It should extend from the lower margin of the bolster to the foot of the bed, or be sufficiently large to protect the mattress from any liability to get soiled. Over this rubber cloth should be spread a thick comforter or blanket, or several folds of sheets. This or these should also be fastened to the mattress. Over this permanent dressing spread the sheet that regularly belongs to the bed. Next, upon the side of the bed that it is designed for the wife to lie, which is generally the right side of the bed (unless the attendant physician, on account of some physical defects, is compelled to use his left hand), and over the bed-sheet lay a neatly-folded sheet with the edges toward the foot of the bed. This will complete the permanent dressing of the bed.

Temporary Dressing of the Bed.

Upon this folded sheet should be spread a gum or rubber blanket, sufficiently large for the protection of the entire bed, and carefully fastened, that it may not get displaced. Over this rubber blanket should be placed a folded comforter or other absorbing material, and above all a folded sheet, which will complete the temporary dressing of the bed. A light, loose skirt, or a sheet folded for that purpose, may be slipped over the person of the patient, which will protect the limbs from any exposure, and the covering of the bed from getting soiled. The chemise should be fastened up under the arms to protect it from soiling. The bed-covers should be light and sufficiently warm to suit the temperature of the room.

Attendants.

The attendants need not be more than are absolutely necessary to meet any possible emergency. It is well that they be the sick woman's most intimate friends, in whom she has implicit confidence, and as nearly as possible calm and firm, not excitable and nervous — who are not disposed, should the labor be protracted, to assemble together in sight of the patient, and engage in serious whisperings. They should always assume a cheerful disposition and an unyielding attitude.

Confinement.

At the end of eight and a half months the uterus has risen to its highest point. There will be a flattening and falling of the abdomen in the last two weeks of gestation. This may take place suddenly. The wife may retire at night oppressed by all the symptoms of pressure on the lungs and stomach, and rise in the morning entirely free from them. She feels entirely relieved, as if a great load had been taken off her. The principal cause of this sinking is the dropping of the child's head into the pelvis. It is always a good symptom, and is indicative of a roomy pelvis, especially in women with their first child. The woman feels much better about the lungs and stomach, but there is an increased disturbance at the lower end of the abdomen. There is a feeling of lightness and buoyancy that increases, and, a few days before the setting in of labor, she feels like taking an extra amount of exercise. This is especially true if it be her first child, but the mother of children is acquainted with this condition, and feels that it is only the precursor of what is soon to follow, and will not unduly expose herself, or undertake an excessive amount of exercise, notwithstanding she feel so well. Another important symptom of the approach of labor, is the increased fullness of the external parts around the birth-place, and an augmented secretion of mucus, which may be so free as to amount to a discharge resembling leucorrhea, or whites. This symptom is indicative of a relaxation of the parts, which will facilitate the escape of the child's head and make labor more easy.

A material mental change may be observed, which is another symptom of the approach of labor. There is a general feeling of restlessness, as if something were wanting, or some awful calamity were to befall her. This is a very distressing feeling, and may last for several days.

The Symptoms of Actual Labor.

The first symptom of actual labor is pain. The patient may be roused out of a sound sleep by a pain more or less severe, which she may not at first be able to locate. She may attribute it to an irregular action of the bowels or kidneys, and feel as if the use of the chamber is what she needs. I recall two instances of this kind where the patients did not live over a stone's cast from my office. Neither of the women were able to return to bed, the uterus disloading itself with apparently a single contraction. Such labors are amazingly easy. Early in the history of labor there is what is called the "show," which is the discharge of the plug of mucus that occupies the neck of the womb up to this time. This mucus is frequently tinged with blood. The pain appears gradually at intervals in the lower part of the abdomen, at first a little like stomach-ache, but gradually increasing in power and frequency. Later, when the head reaches the pelvis, the pain reaches the lower part of the back-bone. There is a feeling of increased weight and fullness, with marked irritation of the bladder and rectum, and a constant desire to go to stool or urinate. This depends partly on pressure

and partly on sympathy, and ceases as soon as the mouth of the womb is fully dilated. Nausea and vomiting are also often present at this stage of labor. "A sick labor" is said to be an easy one. Tremors and shivering also often accompany and are largely sympathetic. They are not connected with cold nor headache. The face is pale and cold. An author says that, "during labor, the entire organism stands in solemn awe to view the performance, and all the organs send responsive greetings to the uterus in its parturient throes." The depression is physical and mental, especially in the first stage of labor. Women generally say that it is impossible for them to survive. They imagine that nothing is accomplished by their suffering during the first stage, and usually complain more during the first than the second stage of labor. The mental depression and irritability are as much the symptoms of the first stage as are the physical signs. The flow of mucus and blood increases; there should be just enough blood to color the mucus pink. A teaspoonful of blood is alarming. The "show" is a certain sign of progress. The pain in the first stage of labor is described by women as a cutting, grinding pain. The patient feels as though some internal organ or part were being rent or torn asunder. When the pain comes on, the woman ceases her employment of walking, talking, etc., bends over, and a peculiar expression of pain comes over her face. When the pain goes off, she resumes her former employment. The effect of these pains is to dilate the mouth of the uterus. The pain is always characteristic of this stage of labor. During

the second stage of labor, the sound made by the patient is of a straining, grunting character. The first stage of labor is long and uncertain, lasting from two or three hours to as many days. The duration of the first stage may differ in the same women. In some women there is a soft, moist, insensitive, and dilated or dilatable os. This indicates an easy labor. In others it is dry, sensitive and rigid. This indicates a tedious labor. What is meant by dilation of the os? Simply a relaxation and softening of the mouth of the womb sufficient to let the child pass through it. This condition is assisted very much by the contraction of the uterus, forcing down into the mouth of the womb a membraneous sack filled with water (called the liquor amnii), which acts as a wedge, holding open the os between the paroxysms of pain. The rapidity of the dilatation of the os is not uniform. It generally takes longer to dilate it sufficiently to admit two fingers than to accomplish sufficient dilatation to permit the passage of the child. Perhaps, as labor progresses, the water-bag-wedge obtains more power to overcome the contraction of the sphincter muscles of the os. Women with their first child usually suffer greater and longer pain in the dilatation of the os than they do with the birth that is to occur afterward. The bag of waters is the predecessor of the child, and, I have said, stretches the passage for it. This bag supplies the place of a cushion of warm water, and by it the head of the child and its cord are saved from all undue compression. No matter how long the first stage of labor, if the bag of water be intact, the

child is safe. If the bag be prematurely ruptured, the labor is prolonged, and may prove fatal to the child. It sometimes happens that the membranes are ruptured, and the water escapes slowly for days and even weeks before labor sets in. It is then called "a dry birth." Such cases are always protracted, and labor more difficult. When a pain comes, the walls of the uterus contract, the edges of the os become tense, and the bag of waters bulges. Then the pain ceases and the os becomes flaccid. The waters recede, and the presenting portion of the child can be felt through the bag. Thus the bag of waters goes on bulging and retracting till it bursts, and from one to three pints of liquor amnii escape. Occasionally, where there is but little water in front, the head may act as a cork, and the water remains behind the child during the second stage. In a typical case, however, the bag of waters bursts, the fluid escapes, the head comes down, and the first stage of labor ends at the same time. But this by no means always happens. When the membranes are thin and the tissues tough, the first symptom of labor may be the bursting of the bag of waters. In a first confinement it is desirable to have the membranes protrude beyond the vulva. The bursting of the bag of waters may alarm a woman with her first child. It sometimes happens that the bag of waters does not rupture until after the head is born. There was a vulgar opinion entertained that a child born in this condition would neither be hung nor drowned.

With membranes ruptured, the liquor amnii escaping

and the head down in the pelvis, the first stage of labor closes. After the rupture of the water-bag there is a lull of the pain for a few minutes. Then the pain is increased, and the woman begins to "bear down." The bearing down is involuntary, to a large extent. She braces her feet and wants to pull with her hands. She takes in a full inspiration, fixes her abdominal muscles and diaphragm, and strains; her face becomes red, her jugulars swell and her carotids beat. These efforts are also impulses of nature. When the straining ceases, the breath is at first rapid, then a calm ensues. It is dangerous for a woman with lung disease or heart disease to strain much, as hemorrhage from the lungs or into the brain may result. Such women may better be delivered by forceps. Further and further the head advances; the pains and straining increase. The head at length reaches the floor of the pelvis, and presses on the sciatic nerve, and this pressure may produce a severe cramp in the legs, which is frequently the cause of intense suffering, and may call for delivery by the forceps. Further and further the head advances; it sweeps through the hollow of the sacrum, emptying both the bladder and rectum by its pressure upon them; it presses the coccyx or lower end of the os sacrum, the anus projects, the perineum bulges, the labia are stretched, and the head is seen at the mouth of the vulva. When a pain comes on the head advances. The pain goes off and the head recedes. It seems as if every pain would accomplish the delivery, while, in a primipara, it may require one or two hours more. In a first delivery,

when the head seems about to be delivered, a pain goes off, the head recedes almost out of sight, the perineum ceases to bulge, the coccyx returns to its normal position, and it seems as though there must have been a rupture of the uterus, the child escaping into the abdominal cavity. This, however, is not the case, for this is one of Nature's conservative processes. It gives the child a respite, and prevents still-births, which would almost invariably happen from long compression of the bones of the head. If this did not prove fatal to it, it would die from suffocation. This is the reason why so many unborn children die in cases of puerperal convulsions. This period of recuperation is also necessary to the soft parts of the mother, to prevent inflammation or laceration from sudden stretching. After this period of rest, the head advances and recedes as before. Do not get scared nor get in a hurry. Take it coolly and wear a pleasant countenance, even if it should take some time. In the pain before the last, it seems certain that the head will be born, but the pain stops just short of accomplishing the work. In the next pain, the woman makes an extra effort, utters a significant shriek, and the head is born. Practically, the labor is finished when the head is born. There is now an interval of rest, the body of the child is born, the woman immediately passes into a new existence, and is comparatively comfortable. She is surprised and overjoyed.

The third stage of labor comes on, which is the delivery of the after-birth. As soon as the child is born

the uterus begins to shrink very rapidly. The placenta does not shrink, but separates from the uterus. The placenta (after-birth) falls to the mouth of the womb and causes reflex contractions. After expulsion of the placenta the uterus keeps on shrinking. This shrinkage compresses the uterine blood-vessels, and prevents free hemorrhage. If the placenta be attached to the fundus of the uterus, it falls into the mouth of the womb and prevents the escape of blood till after the expulsion of the placenta, when a quantity of coagulated blood will follow. If the placenta be attached to the sides of the uterus, it will fall down edgewise, and the blood will continue to escape during the third stage of labor. The separation of the placenta from the uterus begins with the first labor pain.

If the connection be weak there may be accidental hemorrhage at the first pain. If there be abnormally firm adhesions, it is not spontaneously detached. In such situations the uterus may shrink and the placenta be separated before the head is born, and hemorrhage may result. The placenta may remain in the walls of the vagina for hours. We might trust the expulsion of the placenta to the efforts of Nature, as many suggest, but I think it best not to do so, unless Nature act speedily. There may be reasons why it should not be done. The woman is wet, soiled and unhappy till the placenta is removed. I rarely wait longer on the efforts of Nature alone than ten to thirty minutes. If the hand be applied to the lower part of the abdomen, a hard tremor will be

felt through the abdominal walls ; if it be not, then grasp with both hands deep down into the abdomen, and excite through manipulations its contraction. Continue this process until you feel the uterus as a hard, globular mass in the lower part of the abdomen. There are two methods practiced for the expulsion of the placenta. Pass your finger along the cord until you feel the placenta in the mouth of the womb or upper part of the vagina. Seize the cord with one hand ; pass two fingers of the other hand, one on either side of the cord, into the vagina. With these two fingers as a pulley, make gentle tension on the cord with the other hand back toward the spine. Do not pull the cord forward toward the pubes. Pull gently, that you may not detach the cord from the placenta. Should such an accident occur, grasp the placenta with the fingers, and encourage its expulsion. As soon as the placenta is fairly in the hands, commence turning it round so as to form a cord out of the membranes ; this will insure their entire detachment and delivery.

The other method of delivering the placenta is to grasp the uterus with both hands through the abdominal walls and squeeze and press it in every direction toward the centre. You can feel it shrinking from a large mass to one not much larger than a fist. This is perhaps the best method, especially for the inexperienced. Do not push the uterus downward, but squeeze it. It will expel the placental membranes and usually the clots. There is always the loss of more or less blood during this stage of labor, usually not to exceed a half-pint.

I have gone over the several steps in what is called a typical case of child-birth.

Some Attention That Should Be Given the Mother and Child.

There is little to be done during the first stage of labor. An examination of the uterus through the vagina with the finger is necessary; first, to ascertain if the woman be in actual labor; second, if so, to see what is the condition of the os — if it be dilated or dilatable, to see what is the presentation — that is, the position of the child relative to the size and condition of the passage. This examination should continue long enough to examine all the soft and hard parts of the pelvis. It is often necessary to occasionally repeat the examination. The woman should not be especially restrained during the first stage of labor, but may be permitted to do very much as she pleases, and eat and drink as is her custom — unless she be fleshy; in such case, feed her lightly. Usually a woman does not want to eat much. In the first stage of labor, at least, a woman ought not to take alcoholic stimulants. Ordinarily, I never give them in any stage of labor. If the woman be nauseated to such extent as to prevent the pains, give her some nerve stimulant, as peppermint, lavender, sweet spirits of nitre, or a cup of strong coffee or tea. If she have extreme rigors, give Hoffman's anodyne.

So soon as the os is dilated to the size of a silver dollar, put the woman to bed; otherwise, if you permit her to be

up, an accident might occur, and the child be born while she is on her feet. The bed I have already described and prepared. During the first stage of labor the uterus does everything. Sometimes the os is soft and freely dilatable, but there is no pain, or there may have been some pain, but it has ceased. Introduce your finger into the os through the vagina, and manipulate it; at the same time with the other hand gently manipulate the bowels. Continue this procedure for half an hour, and, nine times out of ten, you will have produced very satisfactory labor. Some recommend the administration of ergot, but I very rarely use it, generally succeeding well by the method referred to. You should be very careful never to rupture the bag of waters in a woman with her first child. Allow the waters, by their moisture and heat, to thoroughly relax the soft parts of the passage. In the first part of the second stage of labor you may encourage the woman to bear down. In the latter part she needs no such encouragement, as there is sufficient inclination, and she may injure herself if she make too severe effort. When the head appears at the vulva, or external opening into the vagina, and the head is pressing against the perenium, it should be supported, to regulate the rapidity of the passage of the head, and prevent the rupture of the thin tissues. The perineum should be carefully watched. Its rupture is a serious accident. Place two fingers of the one hand on the perineum and two fingers of the other hand on the child's head, and make gentle passive support to the extent of a few ounces. Use the bare fingers, and not a towel or napkin, for by it

you remove the lubricating material. The fingers should be thoroughly covered with lard. It will sometimes be necessary, if the parts appear dry, to lubricate them with lard during the interval of pain. A pain comes on, the head does not advance, the woman cries out and stops straining; she should then be encouraged to strain.

As soon as the head has been born, find if the cord be wound around its neck; if so, remove it at once, or it may kill the child. This is done by pulling on the free end of the cord, and slipping the noose over its head. If you cannot succeed in getting the child's head through the cord, you may cut it. It may be necessary, in such cases, to deliver the child at once, and, if there be no pain, which sometimes happens, you may be tempted to pull on the child's head. This should be avoided, lest you dislocate the cervical vertebra. Press freely on and rub the abdomen; tell the woman to strain; tell her if she do not, the child will die. Support the child's head; with a cloth wound around your index finger, cleanse its mouth, and with a towel wipe off its face and prevent the fluids from running into its throat. The child is now born. Place it on its side with its face from the maternal organs, that it may not be suffocated by discharges. Instantly place your hand upon the naked abdomen of the woman; make friction and pressure until the flabby uterus becomes firm and hard. The danger is from hemorrhage and convulsions. As soon as the child breathes and shows signs of vigor, tie the cord from two to two and one-half inches from the infant's body first; then again

two inches farther, and, with a sharp pair of scissors, divide the cord between the two ligatures. Wrap the child in a warm, soft blanket and hand to the nurse. Place the mother on her back; in the meantime, keep a careful watch over her, and allow her to rest ten minutes. See that the uterus is contracting; have the attendant keep her hand on the bowels, making pressure upon the uterus, that the after-birth may be expelled. I have given directions for its proper delivery.

Have the nurse, or do it yourself, wash the vulva and thighs in tepid water and soap, and clean things up generally. But do not fatigue the woman with over-attention. The whole toilet should not occupy more than five minutes.

Now apply the binder. The directions for making it have been already given. The binder is to make constant pressure upon the uterus, compress the blood-vessels and support the abdominal muscles. It preserves the woman's shape, to which desideratum no woman is indifferent. Before applying the binder, see that the uterus is well contracted. Place a compress over the uterus, underneath the binder. The binder should extend from the false ribs to the pubes. Pin it as tight as will be admitted by the patient; it will soon get loose. Put in six or eight pins, and see that they are not left in position to injure the patient. Now bring the woman to the head of the bed, but do not let her move, or make any effort at all. Apply a large napkin below the vulva to catch the waste. Now make the woman comfortable, covering her with blankets adapted to the temperature of the weather.

Hemorrhages.

Accidental hemorrhage occurs from detachment of an abnormally-situated placenta. In most cases it takes place during the latter months of pregnancy, or during labor. During the last three months hemorrhage sometimes comes on suddenly, without any apparent cause, especially in cases of *placenta prævia*, that is, where the placenta leads the way, or occupies the lower end of the uterus below the child. In many cases the hemorrhage ceases spontaneously. It may come on in large quantities or it may be continual — called slow hemorrhage. There may be no bleeding until labor comes on, when a sudden rush of blood may prove fatal. In some cases of *placenta prævia*, the os dilates freely, the placenta is spontaneously thrown into the vagina, and labor goes on safely for the mother, but the child is still-born. This, however, is quite rare. This is an important crisis, and ignorance or timidity may cause the death of the parent. During the last three months the best treatment for accidental hemorrhage and *placenta prævia* is rest in bed ; elevation of the hips ; suppositories of opium and belladonna of one grain each ; cold cloths to the lower part of the abdomen and vulva ; if the woman be cold, use hot applications ; if the hemorrhage do not cease or be quite free, tampon the vagina.

Hemorrhage After Delivery.

This is the most formidable complication of labor, and gives no time for dallying ; you must act at once. The

attack is swift and unexpected. It frequently occurs, and you should ever be on the watch. If you have fully followed the directions given to contract the uterus you will rarely have any trouble. I have long been in the practice of obstetrics and have had but one case give me any serious trouble, that was the premature birth of a child. Through over-attention to the offspring, I neglected to see to the proper contraction of the uterus, to which cause I attributed the subsequent hemorrhage.

The premonitions of hemorrhage after delivery are a flaccid uterus, pallor, quick, fluttering, feeble pulse, vertigo, dimness of vision, faintness, yawning and gaping, which should be particularly noted. Fainting is itself dangerous from the liability to produce heart-clot. Locally is seen the rush of blood. The hemorrhage may be concealed on account of a clot of blood in the os, or from its being corked up by the placenta or tampon. In such cases the uterus fills with blood before you are aware. The preventive treatment is by manipulations, to stimulate the uterus to contract. Come down on it with both hands, force contraction, and rid yourself of further trouble.

The medication is ergot. Give a teaspoonful of the fluid extract every fifteen to twenty minutes. Empty the uterus of its contents, placenta, membranes and clots. If the uterus do not contract, introduce the hand into the uterus, and at the same time manipulate externally. This will nearly always cause contraction. If it do not, apply cold water, which produces contraction by shock, and if at

all, it will do it immediately. It should not be tried more than five minutes. If these means fail, dip a clean rag into vinegar, introduce it into the uterus, and squeeze it out. Vinegar excites extreme contraction (is styptic), is not dangerous and is always at hand. Sucking the breast, either by the child or other means, frequently aids contractions. If the patient be faint and feeble, give stimulants. Aromatic spirits of ammonia, Hoffman's anodyne, or ether. Keep the head lower than the body. Give salty food, animal broths, essence of beef, wine, whey, meat soups, milk, or raw eggs. Quiet the nerves by opium and bromide.

Treatment of Placenta Praevia.

When labor has come and you have hemorrhage from *placenta prævia*, the treatment will depend upon the presentation of the placenta. In complete *placenta prævia* the best treatment is to tampon with soft rags until the os is dilated or dilatable, and then turn the child and deliver it by the feet. Watch carefully the progress of the dilatation, and lose no time unless the hemorrhage is slight; if it be severe and dangerous, introduce your hand before complete dilatation, rupture the membranes, seize the feet and deliver as speedily as possible. In general, the child is not hard to turn, as the loss of blood renders the uterus weak and non-resistant to the hand. Separate the placenta at one side to permit the entrance of the hand. Carefully examine as to where it be least attached, and then peal it off. You do this by pushing

your finger in at different points, ascertaining where entrance is easiest. If the patient be weak, give stimulants and ergot. Give a full dose of laudanum. Lose no time. The patient's life is at stake. If she faint she will probably die.

In partial *placenta prævia*, the danger is not nearly so great. Rupture the membranes early, and this may suffice to arrest the hemorrhage by compressing the vessels. If not, tampon the uterus, wait for dilatation, and turn by the feet.

Shoulder presentations or trunk presentation will always require interference and version, that is, turning the child so as to bring the feet down. Version is the great operation in manual assistance. When you have determined that version is a necessity, either for the safety of child or mother, inform the patient. Place the patient upon the edge of the bed with her feet resting upon chairs. Let the assistant support her legs and control her movement so that there will be no muscular effort on her part. Spread out a cloth upon the floor under the bed to protect the carpet; roll up your sleeves and protect your clothing. In shoulder presentations use that hand which corresponds with the shoulder presenting — right hand for right shoulder, and left for left shoulder.

Conditions for Performing Version.

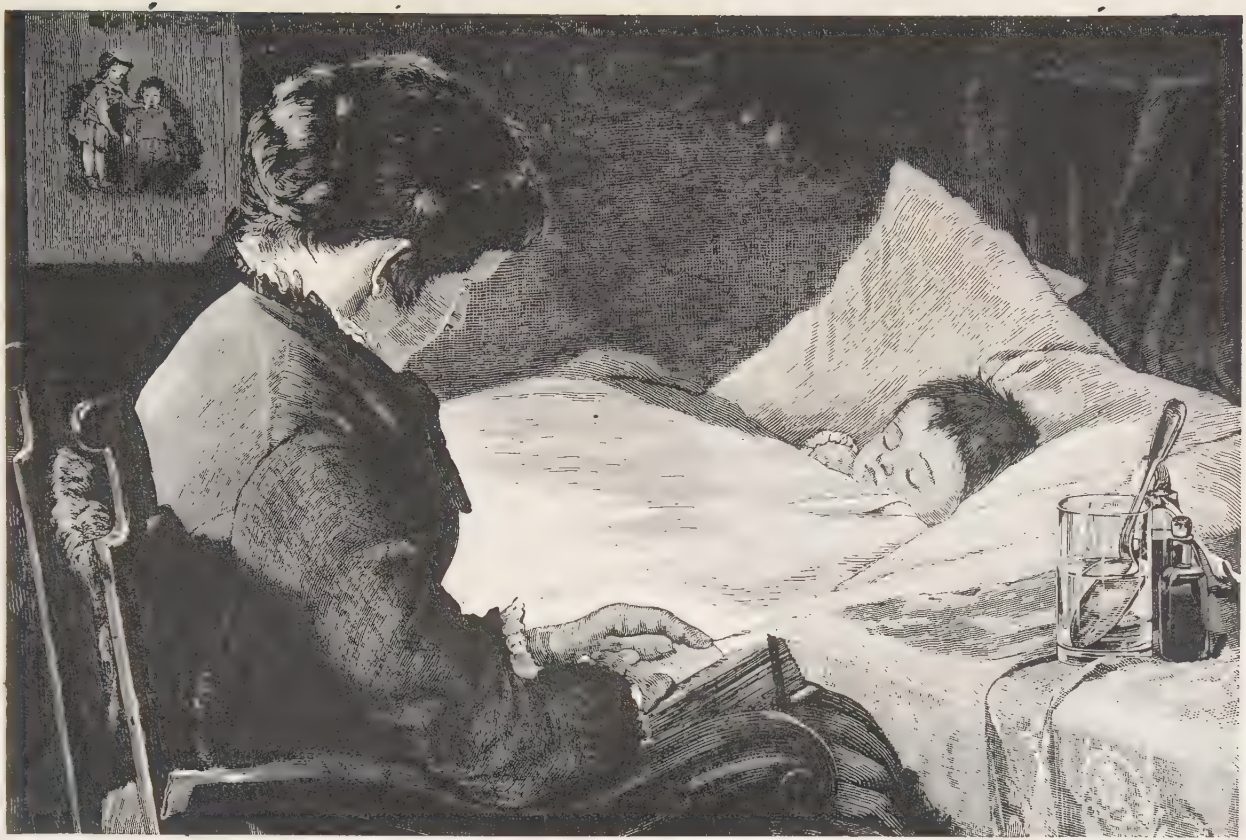
The *os uteri* must be dilated or dilatable. The presenting part must have passed the mouth of the uterus. Version is comparatively easy if the liquor amnii be yet

retained, but very difficult and sometimes impossible after it has been lost. All manipulations in version except extraction must be done in the absence of pain. Insert your hand gently, and, if pain comes on, wait until it ceases, making pressure downward and backward. Do not burst the bag of waters until you get the hand well into the uterus. If the head be in the road push it to one side and explore for the feet. Having found the feet, rupture the water bag and turn the child. All this must be done in the absence of pain — that is, between the paroxysms of pain. Having brought the feet down, keep one hand on the abdomen, and see that the uterus is contracting. Do not hurry now, unless there is accidental hemorrhage. After the child has been born as far as the navel, carry the body up and get the arms down. Better to bring the arm down first that can be most easily done, which is the posterior, or the one next to the back of the mother. Be careful you do not break the bones — they are tender. Having disengaged the arms, the child will rotate with its breast looking to the back of the mother. Insert your finger along the breast of the child and carry it up until you reach the child's mouth, and pull the chin down against the breast, at the same time elevating the body of the child. Make pressure upon the abdomen, and labor will speedily be accomplished.

Face presentations cannot be born save by version or turning the child. There are many other positions, but only two methods of delivery — one in which the presenting part is the vertex, or one that may be converted into

such position ; the other by the feet, or one that may be converted into that position.

The child should be washed. It may be covered with a tenacious white coat (especially is this coat to be found in the creases of the body), which protects it in the uterus. To remove this sebacious matter, rub the child thoroughly with lard, as has been directed in another part of this work, wipe off with a soft cloth, and wash with castile soap. To dress the cord, cut a hole in a double fold of old muslin six or eight inches long and four wide, about two inches from the end ; make the hole to suit the size of the cord ; pass the cord through the hole and envelop in a piece of muslin ; lay it with the cord directed toward the long end of the dressing, fold it back over the end of the cord, and apply the bandage or roller, which consists of a piece of flannel, as before directed, wide enough to extend from the arm-pits to the hips, and sufficiently long to go twice around the body ; pin it or sew it on smoothly and let it remain for from five to eight days, when the navel cord will come off, and ordinarily heal up without any interference. If not, a weak astringent solution of the sulphate of copper or zinc should be applied to stimulate the parts. The child may be put to the breast soon after birth. This course is often necessary to stimulate the uterus to contraction. Do not begin to pour teas into it. They are hurtful to the child. Full directions for the future care of the child will be found in our first chapter on infancy



A Mother's Trials.

THE MOTHER.

Her Responsibility.

THERE is no more sacredly-blessed moment in the life of a woman than that in which is placed in her arms her first-born child. In her heart is born a new love, a new devotion, a new solicitude which every succeeding day will confirm, deepen and strengthen. When she looks upon the little, helpless being, so lately a part of herself, and realizes that it is in very truth her own — hers and his to whom she has given her life on earth — a flood of tenderness rushes into her heart that no other earthly bliss can equal. Recognizing, too, that a new soul is now launched into independent existence, whose life must go on and on while eternity endures, an awe profound and sacred falls upon her, subduing her soul into quiet. If she be a mother whose heart the Creator has touched, she will feel the strong impulse to solemnly dedicate the new soul to the service of the Being whose gift it is, and to pour out her own soul, asking for life, health, strength and wisdom to mature, guard and train her child through all the uncertain ways of life. The mother's feelings at such a moment cannot be described. To herself they are not susceptible of analysis. Complex emotions fill her bosom.

One moment she is buoyed up by the rush of tenderness that sweeps in upon her. At the next she sinks under the sense of responsibility which her new relation entails upon her. The future looms up before her as a sealed book. What it holds in store for her babe she cannot know. She knows that other children, as innocent, as deeply loved, as her own little one, have grown into deformed moral natures. Perhaps it may be so with her own blessed babe. Who can tell?

"The Father hath willed it so,
That mortals may never know
Whether there lies in the future years
A grave of hopes to be wet with tears,
A palace of joy or woe;
Lest feet should falter and hearts grow faint,
He knew it was better so."

The mother will find herself exhausted and weak when she is delivered of her child. While the attendants are looking after the child, the mother must not be neglected. She should be at once drawn up in bed, her limbs cleansed with tepid water, thoroughly dried, and all the temporary dressing removed. She should then be allowed to rest. She will require an additional covering to guard against contracting cold. The labors of childbirth have caused the mother to perspire freely, and the pores of the skin are all open. A chill is invited, and proper caution is required to prevent it. A chill or protracted cold is to be avoided strenuously, as it is liable to result seriously. For this reason it is suggested that as soon as possible the mother be allowed to repose quietly, carefully covered. A reaction will come soon, however, and the superfluous

clothing must be removed, lest such profuse perspiration be started as will be difficult to check. The patient should, if possible, be kept warm enough for comfort, but not warm enough to cause perspiration.

The room should be darkened and all company excluded. One careful, experienced attendant only should remain, so that in case anything be needed by the patient it can be attended to promptly. The presence of a trustworthy nurse will serve to tranquilize the mind of the mother and enable her to secure the quiet and repose she so much needs.

Flooding, or convulsions, are not infrequent consequences of child-birth. Either of these is of such grave importance that means for its prompt arrest should be at hand, and at once employed, lest the life be imperiled. A single attendant is better than two or more, as conversation is likely to be indulged and disturb the patient so as to prevent her getting that rest which she so much needs to restore the exhausted condition of the system resulting from the excessive efforts in the work of delivery. Sleep is Nature's great restorer, and she should be allowed to enjoy it for several hours to recover the lost forces of the system.

Putting the Child to Breast.

When she has had a good nap, the child is to be put to the breast. This will be advantageous to both mother and child. The secretions in the breasts at the time of delivery are well adapted to meet the condition of the

child's bowels. The bowels of the newly-born infant are loaded with secretions that have accumulated during the latter months of pregnancy. The bowels require something of a cathartic nature which will stimulate the stomach and liver, and unload this effete accumulation. Applying the child to the breast stimulates contraction of the uterus, and thereby secures the mother against the danger of flooding. It is also a great benefit to the breast itself, by relieving the milk vessels of a thick and heavy secretion that, if left, would interfere seriously with the free passage of the milk, which usually sets in about the third day. The accumulated secretions of the breasts will generally meet the wants of the child until the time for the mammary supply is established.

The mother may turn on either side and receive the child upon the arm of the side upon which she is lying. If the nipple be not sufficiently developed to enable the newly-born babe to grasp it in its mouth, the difficulty may be thus overcome: Get a pint flask, fill it with hot water, empty it, plunge the neck into cold water that it may not burn the breast, and then place the mouth of the bottle immediately over the nipple. The air that was expanded by the heat contracts upon cooling, forming a vacuum into which the nipple is drawn, and it will accommodate itself to the form and size of the mouth of the flask. The bottle, upon cooling, should be removed, and the child applied to the breast while the nipple is sufficiently prominent to be easily grasped by the child. This simple device, if properly used, and repeated each time

that it is necessary to give the child the breast, would overcome all retraction of the nipple, resulting from a shortened condition of the milk-vessels, or, as is frequently the case, a want of proper development of the nipple. These directions must be vigorously followed before the time for the full flow of milk ; if the breast be permitted to fill up, the extreme distention of the gland will gather up the tissues out of which the nipple is formed, and the breast will become round and smooth as an apple, and all efforts to develop the nipple will be fruitless until the extreme flow of milk subsides. By this time the breasts will be inflamed from over-distention of the milk vessels, and an abscess will be the result.

The patient having enjoyed a good nap, and the immediate wants of the child being met by application to the breasts, it will be important, in order to better stimulate the exhausted system of the patient, to provide her with a cup of coffee or tea, according to her fancy, and a slice of toast or some palatable food. The old-fashioned custom of furnishing a bowl of " bread-soup" for the sick woman at this time is not at all objectionable, being both appropriate and palatable. A slice of bread is broken in a bowl and covered with hot water, to which are added a little sugar, some spice to suit the taste of the patient, and a teaspoonful or two of brandy, which makes it still more palatable. Care should be taken, however, that no more spirits be added than may be necessary as a slightly stimulating condiment, lest the patient be over-stimulated, and injured rather than benefited by the addition.

Cleanliness, always essential in sickness, is peculiarly so in this case. Every few hours — from four to six — a soft napkin wet in warm water, to which may be added a little mild soap, should be passed under the bed-covers, that the patient's person be not unduly exposed, and the soiled parts well cleansed from the effects of the waste that is going on from the uterus. After each washing, wipe the parts dry without producing more friction than may be necessary to the accomplishment of the work. The application of a weak solution of bay rum, say one part rum and two of water, to which might be added a few drops of carbolic acid, after each washing, will be followed by beneficial results in overcoming any tendency to blood-poisoning. The napkin that is intended to absorb the discharge from the uterus should not remain so long as to become saturated and rendered not only unpleasant but dangerous.

The recumbent position for the mother should be most rigidly enjoined for several days, even in the most favorable circumstances. Her shoulders must be kept in bed. In taking her nourishment she may turn upon her side, so as to be able, if necessary, to feed herself. It is better, at least until she recovers from her exhaustion, that she be fed by the nurse or other attendant. When it becomes necessary to empty the bladder, she should be required to turn over upon her face, and raise upon her knees and elbows, when the chamber can be conveniently passed in front and used without elevating the shoulders above the hips, thus avoiding an erect position, which is so objectionable close after delivery.

Changing the Clothing.

If the directions in regard to the care of the chemise and night-gown have been carefully observed, there will be no necessity for changing them for four or five days. If, however, from any accident they should become soiled, it may be necessary to do it sooner. Great care should be observed that the patient be not permitted to lie in stained and unhealthy clothing, because it not only becomes dry and hard, rendering it very uncomfortable, but from the warmth of the body there will arise a very unpleasant and dangerous odor, poisoning the atmosphere of the room and engendering disease. The clothing should be changed without either uncovering the person or raising the body from the bed. Unbutton the bed-gown and chemise in front and withdraw the arms from the sleeves of the garments, when they can be cast down over the body, and taken out at the feet, as it is neither pleasant nor proper to take them off at the pillow. To put on the chemise pass her arms through from the lower end of the skirt into the sleeves, shove them over the arm until they reach the shoulder, then throw the body of the garment over the head and, without lifting the shoulders from the bed, draw it down under the body so far as the hips only, to prevent it from becoming soiled. The bed-gown should be put on in the same manner.

Preparation to Leave the Bed.

The time when a lying-in woman should leave her bed cannot be definitely fixed by any specific number of days. There is an old dictum, and one that is oft-repeated: "She must not get up until the ninth day." It has been bred into the practice of some localities to such immoderate extent that many believe there is some unusual virtue in the ninth day. Hence, most women expect to be permitted to rise at this time, if not sooner. There should, however, be no fixed rule about leaving the bed which does not take into account the peculiar circumstances attending each particular case.

At one confinement a woman may be in as good condition to sit up at the end of the fifth day as she would be at another at the end of the fifteenth day. The same variety of conditions will be witnessed among different women. To keep the bed until after the ninth day is a safe rule in normal child-bed convalescence, but when there may have existed some abnormal condition, as lacerated wounds, which must be healed by granulations, a much longer period will be necessary.

In an American journal of recent date, a distinguished obstetrician expresses his conviction that the upright and sitting posture ought to be carefully avoided until involution (the act of rolling up) has proceeded so far that the uterus has receded from the inferior wall of the abdomen and returned to the pelvic cavity. The observance of this rule, which is a very good one, would allow one woman

to sit up in a week, while another would be kept in bed two weeks or even longer. The absence or presence of the lochia, or discharges, should be an index of the ability to get out of bed. If still present, they should serve as a warning against a return to the upright posture.

Great care is therefore necessary. It is better to remain a few days unnecessarily than to risk health by a premature adventure. Let the first attempt at getting up be largely experimental, and do not experiment too freely. The resumption of household duties should be postponed until the patient can walk about without fatigue or backache. When the abdominal walls are relaxed — that is, loose and flabby — a well-fitting bandage should be worn for weeks or months after delivery, or until the parts resume their normal condition.

Laxative for Moving the Bowels.

Upon the administration of cathartic remedies after delivery there has been promulgated by writers a vast difference of opinion. The author has all his life adopted the practice, if the bowels are not moved normally, which is rarely the case, of insuring a full and free evacuation of their contents. Very few women escape costiveness during most of the period of pregnancy. There is especially an accumulation of fecal matter during the last weeks of pregnancy that is often enormously large, and it frequently contributes to puerperal affections. The means to be adopted for unloading the bowels must be selected with an appropriateness suited to each particular case.

Some women, to produce a free and adequate movement of the bowels, will require nothing more than an injection of a quantity of soapsuds, with, may be, the addition of a little olive oil. In others the object can be better accomplished by the administration of some mild laxative, such as castor oil, compound rhubarb pills, or the compound licorice powder. Sometimes it may be necessary to administer a full dose of calomel or the compound salts and senna. Bear in mind that a full and free emptying of the bowels is a necessity, and must be accomplished. When there are severe colic pains, castor oil, combined with 15 to 20 drops of laudanum, will be found quite serviceable. In the hemorrhoids that frequently trouble women after delivery and during convalescence, the administration of half-grain doses of aloes night and morning will be found a specific.

Fresh Air.

An important factor in the hygiene of a lying-in sick-room consists in an abundant supply of fresh, pure air. The air of sick-rooms is generally vitiated by the abundant exhalations from the body, and emanations from the discharged secretions. Physiologists now declare that infections have their source largely from emanations. Those ordinary agents that purify the air are rarely found in the atmosphere of a sick-room. The plausible theory is that ozone, the great renovator of the air, is not found free in the sick-chamber — that it is all taken up in the oxidation of the atmosphere. If the theory be not correct, why is

it that, while none is found in foul atmospheres or those tainted with exhalations of swampy grounds, there is an abundant supply of it in pure air?

The directions for the bed-chamber of a parturient woman have been fully described in another part of this work. See to it that the avenues for the introduction of fresh air be now utilized, and that the patient do not suffer from the impurities incident upon the condition of her person, by the neglect to use the instrumentalities at command for the complete renovation of the atmosphere in the bed-chamber.

It is only a few days since that the writer had occasion to observe a vivid illustration of what is here meant. A woman was put to bed in a room well adapted to meet all the requirements of a suitable lying-in chamber. Before his leaving, explicit directions were given by the physician for the application of all the means at command for the patient's comfort and speedy restoration. In a second visit, which had to be deferred for two or three days, it was found that the ventilators ostensibly were opened, but virtually closed. Though the ventilator was open, it was covered by the blind, and over that was suspended a curtain, which as much obstructed the free ingress and egress of the air as if the ventilator had been closed. All this was being done lest the patient, who was found wasting with the heat, should have a chill.

No better means could have been adopted to secure this much-dreaded condition. The impure air that she must necessarily be compelled to breathe did tend to load

the blood with impurities, which would result in fever, inflammation, or some agent equally destructive to the physical economy.

Locate the bed in such a position in the room that it will not be exposed to any direct current, then open up the avenues for ventilation, and wash out the room thoroughly with fresh air. Nothing will conduce more to a satisfactory convalescence.

Clothing.

The covering of the bed ought to be adapted to the season of the year and the temperature of the room. More harm is done by keeping the patient too warm than too cold. The coverings of sick persons should combine lightness, warmth and porosity. Persons who are sick and weak are greatly exhausted by a weight of clothing, and yet the covering must be sufficient to keep in the animal heat of the body. Blankets better meet the requirement of bed-covering for the sick than any other article. They are light, porous and warm. There should always be an extra cover at hand that may be used at any time the patient should feel a little cold, especially at such times as the room is being subjected to a thorough ventilation.

Whenever the sheets or any of the appendages belonging to the bed become soiled they should be exchanged for clean ones. Nothing contributes more than this to the health and comfort of the patient. Great care is necessary to see that the clean articles of clothing be thoroughly dry. Hang them where they will be

exposed for several hours, either to the heat of the fire or the direct rays of the sun, to insure the evaporation of all moisture that might be in them. To supply the bed with clean linen, roll the patient to the back part, fold the sheet now on the bed, that is to be removed, close up to her person. Fold the one-half of the clean sheet and lay it also close to the person of the patient, spreading the other half of it over the exposed part of the mattress from which the soiled sheet has been removed. Above the sheet adjust any additional dressing that may be necessary to better protect the bed and turn the patient over on it, the soiled sheet will then be easily removed and replaced by the unfolding of the clean sheet. This changing of the bed should be done as frequently as may be necessary to observe strict cleanliness.

Dressing the Hair.

The condition of the hair of parturient women has been a source of great annoyance. There has long existed a prevalent belief that puerperal women should not have their hair combed, because making such part of the toilet was sure to be followed with a "back-set." This is neither supported by reason nor by experience. It would be quite out of propriety to allow the sick woman to undergo the labor and fatigue of dressing her own hair, but there can be no plausible objection sustained against having it done at least once a day by the nurse or some friend who may be competent to the task. To allow the hair to remain unkempt till after the ninth day, because of the foolish

and unsupported notion that combing it would result in injury to the patient, is simply barbarous. It savors too much of the days of witch-craft to be at all tolerated in the last years of the nineteenth century.

The hair has been by all nations regarded as an ornament, and nothing contributes more to the personal appearance of a woman than its proper arrangement, whether she be lying upon a sick bed or seated in the parlor.

There is no good reason for revolutionizing the customs of parturient women in any direction, but everything should be done with prudence and judgment. Combing the hair, washing the face and hands, bathing the person, eating, drinking, etc., should proceed with the same degree of regularity as if she were in health.

Food.

The diet should be selected with reference to the requirements of the patient. During the first two or three days the patient, as a rule, is thirsty, and does not have much desire for solid food. To somewhat overcome this tendency of thirst, her food should consist of gruel, milk, milk-toast, tea, coffee, soup, to which may be added rice, or any food that contains plenty of fluids. While it is desirable on the one hand to avoid exciting colics and catarrhal affections of the stomach by a too-early return to solid food, yet it is equally important, on the other hand, to remember that the speedy establishment of an abundant supply of milk secretion is likely to be hindered by subjecting the patient to semi-starvation.

It is seldom that any serious consequences result by allowing the patient to continue to use the food to which she has been accustomed previous to confinement, except that meat should be restricted for several days, or until after the bowels have been moved and the free secretion of milk established. All easily-digested articles of food, such as soft-boiled eggs, chicken broth, wild meats, squirrel, birds, steak, chops, etc., according to the taste of the patient, should be allowed. The food should be selected with adaptability to the condition of the bowels. There is usually a tendency to constipation, which may to some extent be overcome by the use of porridge made om unbolted flour, cracked wheat, and cooked fruits, r any ordinary diet that has a laxative effect upon the bowels. On the other hand (as is rarely the case), if the bowels should be too loose, such food should be selected as may be adapted to this condition. Let the food, as much as possible, regulate the bowels, that cathartic medicines may be avoided.

Directions for Nursing.

Every healthy woman should nurse her own child, especially during the puerperal period. Convalescence is best accomplished where the mother is qualified to nurse the child, and it is a duty that every mother owes to her offspring. Some women have a distaste for nursing, and positively refuse to do so, on account of the trouble and confinement that is necessarily imposed. They forget that there is a moral obligation resting upon

them, growing out of the relations that exist between themselves and their children. It is beyond all question the duty of the mother to allow her offspring to partake of the nourishment Nature has provided by the maternal organs, if neither her own health nor that of her child is to be sacrificed by such lacteal alimentation. It will result in equal advantage to both mother and child. It is Nature's provision for the sustenance and development of the infant. The mother is likewise benefited by the drawing away of the lacteal fluids. Inflammation and ulceration of the glands of the breast are obviated. The uterine organ is thereby stimulated, and the drain upon the pelvic cavity encouraged, thus relieving the congestion resulting from the delivery. Serious diseases of the female organs, which might necessarily result from the failure of the mother to submit to a provision of Nature for her rapid and permanent restoration, are by this natural process avoided.

Dr. Ramsbotham, in his celebrated work on midwifery, speaking of this subject, remarks: "The mother should forget the pleasures of society, give up the necessity of appearing in public, and waive even the etiquette of court, if these pleasures or that etiquette interfere in any material degree with her duties to her infant. I cannot allow that a physician would be honestly and conscientiously fulfilling the trust reposed in him who did not, even in the highest grade of society, point out the dangers that may spring from this most natural and engaging employment being abandoned; and I would always think better of a

woman's feelings, both toward her husband and infant, who gave her child the advantage of her own breast."

However, the advisability of continuing lactation after she is up and able to attend to her household duties must depend upon the question whether or not the mother is in position to make the necessary sacrifices to the interest of the child. When the domestic and social demands upon her time and thoughts are numerous and pressing, lactation is apt to be imperfect, and the child will not thrive. In such cases humanity requires that the child should be surrendered to a wet-nurse. When her health is such as to make it imprudent, both for her own good and that of her child, it would be proper and right to have it nourished in some other way. Nursing is sometimes rendered impossible by lack of milk, or by flattened or misshapen nipples. Such diseases as scrofula, consumption, epilepsy, and syphilis contracted shortly before the birth of the child, will be reason sufficient to bar the mother from the fulfillment of this maternal obligation.

As is elsewhere remarked, the child should be applied to the breast within a few hours after delivery. Soon after birth the child seizes the nipple eagerly, and though the quantity of nourishment be small, it is vastly better adapted to the child's needs than the catnip teas, sugar and water that motherly nurses are so desirous to give as substitutes. Do not forget that the early application of the child to the breast is a great benefit to the mother, by promoting the contractions of the uterus, and by lessening that painful distention of the breasts which occurs at

the time when the function of lactation is fully established.

No infallible rule can be laid down in regard to the frequency with which the child should be placed to the breast. But it is best for the child and much more convenient for the mother to adopt some system. So long as the baby's stomach is small in capacity, and more or less of the food is regurgitated, the interval should not exceed two or three hours. But from an early period the mother should observe regularity in time, and gradually increase the interval, that the child may have sufficient sleep, and the mother a better opportunity to recuperate her strength. The breasts should be sucked in alternation, and the nipples carefully washed, both before and after nursing, with a little water; what is better, is the addition of carbolic acid. The extreme sensitiveness of the nipple at the commencing of lactation may be greatly relieved by applying constantly a cloth wet with a solution of sugar of lead, ten or fifteen grains to a glass of water. The wearing of shields will be found a great comfort, preventing the rubbing of the night-dress or bedclothes against the tender organs.

How to Prevent Deformities.

In the country, and among the common people who are in limited circumstances, it is quite common for the husband, wife and child to sleep in the same bed during most of the period of lactation. For the better accomodation and safety of the child it occupies a position in the

bed at the side of the mother the farthest from the husband. In this position it frequently lies all night on the arm of the mother, and a great deal of the time at her breast. The bones of the head and face of the infant are at first quite soft and readily yield to surrounding influences. Being for a length of time permitted to repose in this same position, the soft bones of the head yield to the constant pressure, and the result is that one side of the head and face flatten. The contour of the head loses its symmetry, and the child's head and face are deformed.

This same result occurs with mothers who, from accident, only nurse from one breast. The child is compelled to lie all the time in the same position. The writer was recently called to see a child deformed in this way, and said to the mother : " You sleep all night with your child on your right arm ? " She replied with some surprise that she did, but wished to know how I knew this. I pointed out the deformed condition of the child's head as the grounds upon which the query were based. The mother further said that, during the daytime, when she put the child to sleep in its crib, she would sometimes lay it on the left side. When this were done, asleep or awake, it would turn over. It had so acquired the habit of lying upon the right side that it was comfortable in no other position. In the case in hand, the flattening of the bones of the head and face was so decided that there was scarce a possibility that the deformity could be removed. Mothers should accustom their children to changes of position in sleep, moving them from one side to the other, and thus avoid causing this deformity.

Influence of Diet on the Mother's Milk.

That diet produces a change in the chemical constituents of the milk in the human family as well as that of the lower order of animals, is a truism of which not only every physiologist, but every mother who has any experience in nursing children or the care of a household, is well aware. Farmers' wives know quite well from observation the effect certain kinds of food have upon the milk of cows. Even a bitter, unpalatable taste is given to milk from cows feeding upon certain plants. It is manifest that mothers' milk would be subject to the same influence. It is quite evident that diseases of children are often produced by the impure or innutritive state of the mother's milk, even in cases where no such deterioration of the milk is suspected, the health of the mother being apparently unimpaired.

M. Girard has published a very interesting paper on this subject, in which he points out the importance of testing the character of the milk by microscopic examination in all cases in which the infant, when nourished solely by the breast, becomes affected by symptoms of indigestion. Condie, in his work on diseases of children, says: "Every physiologist is aware of the change produced in the properties of the mother's milk, by the nature, as well as by the quantity, of the food habitually taken. Too much or too little food, a too stimulating diet, the use of vinous or distilled liquors, more especially if taken in excess, and articles of food of difficult digestion, cannot

fail to affect the secretion of milk, and render the latter unfit for the nourishment of the infant who partakes of it. Milk thus deteriorated will very generally produce irritation of the infant's stomach and all the symptoms of indigestion."

From the opinions of these very high authorities, as well as many others that might be quoted, it is patent that great care should be observed by the mother in the choice of her diet, that her infant child be properly nourished, and that the nourishment be pure and free from anything that would derange the digestive organs and thereby induce serious disease. A single dish of greens, or cabbage, or even a cup of buttermilk has been known to so affect the milk of the mother that her babe would be attacked with colic. This infantile affliction can quite frequently be traced to some indiscretion of the mother's diet. The retention of milk in the breasts alters its character and makes it poorer. Knowledge of this may enable mothers to accommodate the strength of the milk to the power of the child's digestion. If the child's stomach be weak, and the quality of the milk too rich, it may be retained in the breast long enough to accommodate its quality to the ability of the child's stomach to digest it. On the other hand, if the milk be poor in quality, the child should be applied to the breast more frequently.

Influence of Pregnancy.

Pregnancy during the nursing period, especially after the first two or three months, has always been set down as producing an alteration in the milk of the mother,

rendering it unwholesome for the child. During the first three months of pregnancy no particular change occurs in the milk. At a later period, however, it is probable that the safety of the mother, as well as the health of the child at the breast, will require the latter to be weaned. If the child be too young for other food, the milk of a healthy nurse or that obtained from a cow must be substituted for that of the mother. It is true that infants have been kept at the breast until a later period of pregnancy, or even to its termination, without apparent injury. In other cases, according to Dr. Dewess, so great a deterioration of the milk occurred as to require that the child should be taken from the breast at a very early period.

The following rules should generally be observed : As soon as a nursing woman is fully aware that she is pregnant she should realize that her own safety, as well as the health of her nursing child, depends upon an immediate removal of the child from the breast.

Influence of Menstruation.

The occurrence of the menstrual discharge is generally enumerated among the causes of a deterioration of the milk, and is calculated to produce serious injury to the infant. When menstruation is suspended during the first eight or nine months subsequent to parturition, and then reappears, there will very commonly be found to take place a diminution in the supply, and a decided change in the properties of the milk. The child will very generally suffer if it be continued at the breast. It is by no means

established that every occurrence of the menses during lactation is calculated to produce similar effects upon the milk. Cases are known of several women who menstruated regularly during the entire period of suckling, and their infants throve equally well with those of mothers in whom the menses were suspended.

From a series of observations made by Rasciborski it has been ascertained that the health of infants nursed by menstruating females suffers no kind of injury. If, however, upon the appearance at any time of the menses, the milk be found to disagree with the child at the breast, it will be prudent to cease suckling it, so long, at least, as the discharge may continue.

Influence of the Mind on the Milk.

Intense grief, mental anxiety, paroxysms of passion, or any long-continued or violent emotions of the mind, are, unquestionably, causes of considerable deterioration in the milk. Severe infantile vomitings, or even general convulsions, have been known to result from applying the child to the breast immediately after the nurse had experienced any intense mental excitement — whether of an exhilarating or depressing character. It is a general remark that children nursed by females who are laboring under intense grief or mental anxiety of any kind seldom thrive.

There are to be met plenty of cases of this kind, where the safety of the child requires it to be taken from the mother's breast, and where every symptom of disease

ceases soon after furnishing it with the breast-milk of a healthy nurse. It is no uncommon occurrence for the secretion of milk to almost entirely stop upon some undue excitement of the nervous system. The fear of the mother, excited on account of some severe illness of the child, will check the flow of milk, which will not return until the mind is at rest, or with the restoration of the child to health.

Qualifications of a Good Nurse.

One among the first considerations in determining a good nurse is to know that she is well-bred and free from any taint of blood that could be transmitted to her child through the channel of lactation. The health and future development of a child depend in a large measure upon the strength and purity of the nourishment that it receives. The nurse should have a vigorous constitution, robust and strong, without being corpulent. Such persons have a good appetite and healthy digestion. Their breasts should be well developed, and owe their size not to fat but to the number and size of their blood-vessels and milk-ducts. The breasts should be pear-shaped, and not flat, with superficial veins well marked, instead of being covered up with excessive fat. Such nurses do not experience a feeling of fatigue or exhaustion from lactation. The nutriment which they receive is equally expended to support their own person and that of their child.

While some mothers have all these qualities, and experience no decline in either their health or ability to perform

their household duties, there are others who, though they cannot show all the characteristics here detailed in defining a good nurse, yet may be equally good. There are mothers whose general physical qualities are good, who have small breasts, which cannot contain a great quantity of milk at one time, yet those mothers furnish an abundant supply, as is evidenced from the appearance of their nursing children. Such persons' breast-glands secrete milk rapidly, and require the stimulus of the child sucking to put them into exercise. There are other mothers who furnish an abundant supply of good healthy milk and nurse their children well, but do it at the expense of their own physical being. A large proportion of their own nutriment is consumed in manufacturing the nourishment for the child. They themselves lose flesh and become weak and feeble, because, as they affirm, "all they eat goes to the milk."

Such mothers find it necessary frequently to ween their children early, to save their own health from hopelessly failing. Another class of women are habitually thin in flesh, but furnish the usual quantity of milk, but it is of such poor quality that it does not materially exhaust them, neither does it prove to be very nourishing to the child, as may be seen from the child's pallid, soft and flabby appearance.

Wet-Nursing.

The method of raising children by wet nurses is growing in popularity, especially in the more fashionable walks of society. Mothers are growing fruitful in their excuses

for not nursing their children. These excuses are, it is true, in many instances, valid, and should be received with the highest consideration. But the tendency is to magnify little obstacles, resulting from the condition of health or physical development. The truth is, the mothers are unwilling to make a necessary sacrifice of the pleasure and enjoyment to be found in social life.

The true-hearted, genuine mother, who realizes the great object that Nature had in the construction of her physical economy, and its adaptation to meet the demands resulting from her life-giving organs, will not allow trivial hindrances to develop between her and the fruit of her womb, but with all the sympathy of a mother's heart will cling to her child with that impulsive maternal love that manifested itself naturally.

The provision made by Nature to meet the wants of offspring had a two-fold object in view : To conveniently provide for the physical necessities of the offspring, and, through the giving and receiving such supplies, a farther development of the oneness of mother and offspring. Her heart would continue to swell with a deeper solicitude every succeeding day of anxious care and watchfulness, if that mother could be made to appreciate the advantages of this means of cementing the reciprocal love that exists between parents and children.

There are cases, however, where it is impracticable, for many reasons, for mothers to nurse their children. The question forces itself for answer as to the method of bringing up the child. From many causes there is an increasing

tendency to resort to bottle-feeding instead of procuring the services of a wet-nurse, even when the question of expense does not come into consideration. Full directions for this method are given in another part of the work, to which the reader is referred.

Selection of the Wet-Nurse.

In selecting a wet-nurse, we should endeavor to chose a strong, healthy woman, who should not be over thirty to thirty-five years of age at the outside, since the quality of the milk deteriorates in women in more advanced life. Every young woman of sixteen or seventeen should also be rejected. It is scarcely necessary, from what is said elsewhere, to remark that great care must be taken to require the absence of all traces of constitutional disease, especially marks of scrofula or enlarged glands of the groin, which may be due to antecedent syphilitic taint.

If the nurse be of good muscular development, healthy looking, with a clear complexion, sound teeth (indicating generally a good state of health) the color of the hair and eyes are of secondary importance. It is commonly stated that brunettes make better nurses than blondes, but this is by no means necessarily the case. Provided all the other points be favorable, fairness of skin and hair need be no bar to the selection of a nurse. The breasts should be pear-shaped and rather firm, indicating an abundance of gland tissue, with the superficial veins well marked. Long, flabby breasts owe much of their size to an abundance of fat, and are generally unfavorable. The nipple

should be prominent, not too large, and free from cracks and erosions which, if existing, might lead to subsequent difficulties in nursing. On pressing the breasts the milk should flow from it eagerly in a number of small jets, and some of it should be submitted to an expert for examination.

The character of the applicant should have due consideration. An irascible, excitable, or highly-nervous woman will certainly make a bad nurse, and the most trivial causes might afterwards interfere with the quality of her milk. Much may be learned by paying particular attention to the nurse's own child, as its condition affords the best criterion for determining the quality of the milk. It should be plump, well-nourished, and free from all evidence of disease.

Directions for Arresting the Secretion of Milk.

It is highly important that mothers (where, for some satisfactory reason, many are disqualified for nursing, also at the time of weaning) should have some advice as to the best means to be adopted for their own comfort and safety in stopping the milk-secretion as soon as possible. The heat and distention of the breast, under the influence of the excessive flow of milk soon after delivery, often give rise to much distress. The breasts should be enveloped in cloth or cotton-batting, covered with an ointment or salve made from camphor, belladonna and lard. Pulverize two drachms of camphor, which will be easily done if you first add to it a few drops of alcohol; add to this one

drachm of pulverized extract of belladonna and two ounces of lard. If you cannot buy the belladonna pulverized, rub up the soft extract with the lard and then add the camphor. When the glands get hard and lumpy they should be gently rubbed, so as to avoid any undue tension of the milk vessels that might result in abscess. The patient should take one or two teaspoonfuls of Rochelle salts, or sulphate of magnesia (Epsom salts) and senna — two parts of the former to one of the latter — sufficient to produce an aperient effect upon the bowels. This will do much toward removing the milk. The iodide of potassium, in doses of twenty to thirty grains, is, in many cases, a specific in arresting the secretion of milk.

A very good liniment for relieving the pain resulting from an over-distention of the breasts with milk may be made from taking four ounces of strong tincture of camphor, one ounce of laudanum, and two tablespoonfuls of good soft-soap, put all into a bottle and shake well before using. It should be applied every three or four hours. Should there be a tendency to develop an abscess, it may be averted by taking full doses of either the fluid extract or tincture of *phytolacca decandria* (poke-root) every three or four hours.

Excessive Lactation.

There are many women who, even in nursing their own children, are troubled with an excessive flow of milk, more than the children are able to take. This excessive secretion keeps the breasts distended to such an extent as

disposes them to a continual leakage, which renders the nurse very uncomfortable from the saturated condition of her clothing. In such cases the child is very liable to suffer because of the unnutritious, watery character of the milk. Women who are accustomed to long and profuse monthly sickness are prone to this excessive secretion of watery milk. To remedy or obviate this over-abundant supply and improve the quality, much may be accomplished by attention given to both food and drink, and the addition of some tonic medication.

There are some kinds of food, such as cabbage and turnip, soups, etc., that increase the quantity of milk. These should be avoided, and also the free use of fluids. Hence the food should be to a great extent composed of solid material, and eaten comparatively dry. In addition to this change of alimentation, a tonic composed of tincture of iron, fifteen to twenty drops in a sup of water, three or four times daily, will be found highly beneficial. The tincture of iron is destructive of the enamel of the teeth, and should be taken through a tube. It blackens the stools, which need not give any unnecessary alarm. It should be discontinued as soon as the improvement of the milk is manifest. In those cases in which the trouble seems to be not so much an over-supply as an inability to retain the milk, the administration of tonics addressed to the nervous system, and the local application of astringents and of collodion around the nipples, will overcome the difficulty.

Scantiness of Milk.

Some mothers appear never to have a sufficient supply of milk to meet the demands of their children. A herdsman, whose wife belonged to this class, said that "fine-bred stock were not good milkers." Whether or not this opinion is sustained in the human family cannot be affirmed with certainty. It is true that, for some perhaps unknown cause, certain women who physically appear to be possessed of the necessary qualifications, habitually secrete an insufficient quantity to supply the demands made upon them to support a single child. Other women, with no more favorable appearance, can furnish an abundant supply for two babes.

The women of deficient lactation are generally found in the large cities, among working women whose daily employment requires them to be separated from their children during a great portion of the day. The deficiency may arise from want of nutritious diet, which would cause an impoverishment of the blood and consequent indigestion. This unfavorably affects the nervous system, and diminishes the supply as well as deteroriates the quantity of milk.

Excessive exercise and overwork, especially among women who are ambitious to accomplish a large amount of work in a set time, affects lacation. There are women who, under ordinary circumstances, without any undue burdens to perform, secrete an ordinary supply of milk, but when they have a washing to do or some extra house-

cleaning, their child is compelled to undergo a fast. Women who do not begin to have children until late in married life have usually less milk than those who begin earlier.

In remedying this misfortune the social history of the individual case should be carefully studied, to ascertain any probable cause pertaining to the habits of the individual that might be overcome or corrected. It was said, in the remarks on the qualities of a good nurse, that some women appear to secrete milk only when the gland is stimulated by the application of the child to their breast. If the mother who may be troubled with lack of supply would take advantage of this suggestion, and frequently apply the child to the breast, she might find a sufficiency to supply the demand. It is so in many cases.

In some mothers, manipulation of the nipple by drawing it between the thumb and finger will cause the breast to fill up. A change of the social condition, exercise in the fresh air, baths, personal cleanliness, and such hygienic treatment as will improve the general health, will increase the quantity and improve the quality of the milk. The diet should be adapted to the needs of the system. Those mothers who are weak and pale will require a large proportion of eggs and meat, while the corpulent should be restricted in animal food and take plenty of exercise in the open air. True galactogenic agents increase the quantity without deteriorating the quality. Abundant and succulent food, fresh air, plenty of sleep, exercise and, if required, bitter tonics, are the more rational

measures. Cider, beer, etc., are highly recommended by some. Certain kinds of grain, no doubt, have an influence on the quantity and quality of milk. Oatmeal and buckwheat have well-deserved reputation as suitable food for those women who are troubled with deficient lactation.

Of drugs, the *galega officinalis* has been prescribed on good authority to increase both the quantity and quality of milk.

To Overcome Suppression of Milk.

When, from any accidental cause, there is suppression of the milk, and it is desired to renew the secretion, the most efficient agents are :

1. Suction, either by the mouth of the infant or the nurse, or by means of the instruments that are used for that purpose.

2. Topical applications. Of the latter the leaves of the castor-oil plant deserve special mention. A handful of the fresh leaves is boiled in a half-gallon of water, and the breasts are gently bathed and rubbed with this decoction for fifteen or twenty minutes, after which a poultice of the boiled leaves is made, laid upon the breast and allowed to remain until it dries. If the secretion do not reappear in a few hours, this is to be repeated.

3. Faradization (electricity). The apparatus should be at moderate force, the conductors moist ; the muscles of the breast should not be included in the current, which should be confined to the gland, and the sessions should last about twenty minutes each. The success with this means has been positive.

To prevent accidents occurring from suppression of milk, it is best to give a brisk purgative, such as a full dose of Epsom salts, which will produce a free, watery discharge from the bowels, and restore as speedily as possible the secretion of milk.

The Relation of Husband and Nursing-Wife.

It is customary for the husband to occupy a separate room during the lying-in period, which if the confinement has been normal, lasts about a month. During this period there should be no sexual intercourse, nor should there be until, at the least, the perfect normal conditions of those organs that have been so seriously taxed in bringing into life a human being have been re-established.

It is a question of discussion among medical men whether or not continence should be observed during the entire period of lactation. Some authorities affirm that sexual intercourse makes too heavy a drain upon the vital forces of the woman's system, already taxed to their utmost capacity in providing nourishment for her dependent child, while other medical men, of equal ability, assert that moderate and prudent cohabitation rather conduce to the health of the wife. It is certainly not to be expected that absolute continence will be endured by husband or wife during the period of lactation. However, when women are warned, by the return of their menses, that they are liable to another pregnancy, which would result not only in an injury to their nursing child, as well as an over-production which would be alike injurious to mother and child, then such asceticism should be insisted upon.

Mamma's Instructions.

MATURE WOMANHOOD.

General Remarks.

A quaint and homely adage says: "Once a man, and twice a child." If "woman" should be substituted for "man" and the reference be made to the possession and exercise of the procreative functions, no more striking truism could be stated. When a child, she had a strictly individual life. A time comes when she resumes this condition. This time is called the "climacteric period," or change of life. From the time of puberty in the morning of maidenhood, up to this time, woman has been capable of conceiving and giving life to others. Other lives were wrapped up in hers. Every successive month for more than thirty years there ripened in the ovaries of her body a primordial germ of life. But, with the change of life, this physical function ceased. She returns to the individual existence she enjoyed as a child.

If she has been governed by the principles of wisdom and prudence she may look forward to a period of tranquility and rest, to enjoy the blessings of health and the honors of paternal love — a love which will burn with a brighter and purer flame than any which she inspired in either the bloom of her youth, or the beauty of her

maidenhood. But, before this haven can be reached or this goal attained, there is a crisis to be passed, to which most women look with anxious solicitude.

Age at Climacteric Period.

The reproductive period of woman's life extends from about fifteen to forty-five years, or through a period of time equivalent to one generation, or thirty years. This may be varied a few years, some commencing earlier than fifteen, while others continue till fifty years of age. Instances are not unusual where the menses do not cease until after fifty. The writer knew a mother quite well who was blessed with a large family and gave birth to her youngest child at the extreme age of fifty-one years. There are cases on record in which the change did not take place until after sixty years. But these are extreme cases, and quite rare.

Examples of the early cessation of the menstrual fluid are much more common. The youngest woman who had changed life, met by the writer in his practice, did it in her thirty-second year. Others, however, reckon instances as young as twenty-eight, in which the menstrual flow had ceased. But all these cases referred to by authorities are extreme, and exceptions to the general rule. Women ordinarily begin to look for some manifestations of the approaching change after they have passed their fortieth year, and, indeed, it is rarely now that you meet a nursing mother who is more than two-score.

Incidents Attending Change of Life.

There are not only radical but frequently serious changes and diseases that develop at the introduction of the menstrual flow; its cessation is also accompanied by changes and disease.

Fothergill says, in his distinguished work: "In sedentary and advanced life there is a certain liability to disease at the time of puberty, as pulmonary tuberculosis and anœmia. The latter may extend to chlorosis. So, at the end of this reproductive period, there is a liability to imperfect nutrition, and to a like development of the adipose tissue, as is seen in the anæmia of post-pubertal life. How and why there is a tendency to mal-nutrition of the muscular tissue, and a development of fat at the beginning and end of the reproductive period, it is not possible to say. But there is no question about the fact. It apparently depends upon some hidden law of nutrition not yet revealed to us."

As a consequence, then, most women at the change of life are often in feeble health. They are not infrequently stout, with flabby muscles. The heart, being a muscle, is weak, and there is incapacity for exertion, with palpitation on effort. The nervous system is often debilitated, self-control is impaired, and the sufferer becomes pettish, fretful, or nervous. There may be a good deal of disturbance of the heart's action, and heart-disease be suspected, as was the case with the late Harriet Martineau (who got rid of her heart symptoms entirely, to die more

than twenty years later of a disease utterly unconnected with her heart). The bowels are apt to become irregular, while the appetite becomes capricious.

As to the uterine functions, the changes in them take various directions. Sometimes a barren wife becomes a mother — like Sarah of old — when all hope of offspring is dying out.

A widow or spinster, who hitherto has led a decorous life, suddenly develops strong erratic tendencies, and either makes a foolish marriage or forms immoral and disreputable ties at the bidding of the recondicence of the sexual instinct. The records of divorce courts, the annals of asylums, the dates on the tombstones in the churchyard, all tell us of the severe strain put upon the system of the woman during the change of life.

There is, indeed, much physical and mental disturbance at this time. Sometimes the flux becomes increased; at other times decreased, or it becomes irregular and fitful. Not uncommonly some special disturbance, as sickness and vomiting, may take place, and recur rythmically, at times which correspond with the menstrual flux; and this sort of echo or refrain may not uncommonly be detected for some time after the menses have ceased. Indeed, in recurrent troubles at or about the change of life, it will commonly be found, upon close inquiry, that they correspond to the menstrual periods, had these still continued. When the periods manifest an amount of pain exceeding what has been experienced in earlier days, there exists a strong suspicion of latent gout.

The bowels are apt to become irregular for the want of tone in the muscular fibers. There is generally a flatulence, which adds to the disturbance of the heart and aggravates the nervous condition present. Shortness of breath, palpitation, come on at other times than after effort. Sometimes the patient wakes up from sleep with one or both these conditions present, and is greatly alarmed, thinking something dreadful is the matter. Especially is this the case when the heart's action is irregular and the palpitation intermittent, as though the heart stopped. This apparent stoppage of the heart produces the greatest alarm; for as long as the patient can feel the beating of her heart, she knows she is not dying, but when it ceases for a moment, she is filled with consternation.

This complicated condition is a source of great trouble to many women, especially when the nervous system is disturbed. However, about the time this change comes, the health of the sufferer becomes impaired from other causes, which are liable to be overlooked and no attention paid to them, thinking all her ailments are due to the change of life. Hence she is disposed to keep quiet, and wait for Nature to revolutionize her system. This is a sad misfortune, because, when the change is come, it finds her poorly prepared for it.

All women, when this time of life draws nigh, ought, as a duty to themselves and their families, take especial care of themselves, and should promptly meet any deviation from good health by appropriate treatment, so as to arm

themselves and be equipped when this enemy to female health makes the attack. This course will well reward them in the day of trial.

General Directions.

The management of the troubles that present themselves at this time of life consists in a well-regulated regimen, with such exercise as the system is able to bear. The food should be light and very digestible, consisting of oatmeal porridge, rice pudding and soups. If there be much debility, wine bitters and proper stimulants to meet the attacks of palpitation may be used. Rest is very important, and especially in a recumbent manner, to such patients as suffer from the attacks of palpitation. Some tonic medicine should be taken, as digitalis, nux vomica, or belladonna, or lily of the valley combined with a carminative, as cascarilla, or other aromatics. Special attention should be given to the bowels, to see that they are kept open regularly by proper attention to diet, or, if need be, by using some mild aperient.

Anything that would be liable to produce pain should be avoided. The condition of the nervous system disqualifies the patient for enduring pain. The pain of griping bowels is very distressing, and especially so in the condition of the female at the change of life. Consequently all drastic purgatives are to be avoided, the mildest laxatives only used, and they combined with aromatics or carminatives so as not to produce griping.

If minerals be used they should be accompanied with a little essence of ginger or some other warm agent, to prevent any tendency to gripings. If these directions be carefully observed, much suffering will be avoided, and comfort and safety to life will abundantly reward the patient for all the trouble she may undergo in strictly complying with them.

As the time of life approaches when it is customary to look for this important epoch (and indeed at all other times as well) women should endeavor to live such temperate lives, both physically and mentally, as insure a placidity of mind and vigor of body. No change, however radical, that has its origin in the natural execution of any of those functions established by the wisdom of a beneficent Creator for our well-being should result in any serious detriment to health or comfort.

The misery of womankind is, to a very great extent, the result of the reckless violation of physical law. With the laws of hygiene, as pointed out in this work, carefully obeyed all along the journey of life, much suffering would be avoided, and no evil foreboding in regard to this important change need enter the mind to disturb the comfort that is wont to exist in a truly happy family. Indeed, many of the troubles attending this period of life are either directly or indirectly the result of an anxious concern or expectancy that is nourished and cherished in the minds of individuals, perhaps for years before this change takes place. When it does come, it too often finds the system feebly prepared to meet even an imaginary foe or a real enemy.

Physiologically speaking, it is just as natural for the menstrual flux to cease as to begin. Both epochs are the result of well-defined natural laws. There is no reason why either of them should be attended with any special disturbance of the general health. And, since the girl who has been properly educated in regard to her own physical economy, and has paid a reasonable respect to the laws of health during the period of childhood, experiences no trouble at the approach of puberty, neither should she at its decline, if she have continued to be governed by the same health-producing principles through all the years of her maternal womanhood. Those only suffer who have, throughout this period of maternity, lived to a very great extent in open rebellion to many, if not all, the well-established principles of physical life. Is it seriously to be expected that such women will, under the most rigid discipline, be able entirely to pass through any important crisis without experiencing more or less inconvenience?

But there is much encouragement to afford to a large number of women who may, to a great extent, have been suffering invalids for many years. To many such, who have been battling with the terrors of nervous irritability or the rackings of disease resulting from physical derangements or functional disturbances of the organs of generation, the light-house of restored health may be seen from the mast-top, and with these directions for a pilot, and prudence and common sense as a helm, they will be able to land their frail bark in the long-looked-for haven, where they may pass the evening of life in the enjoyment of almost perfect health.

The writer is, and has been for more than half a century, well acquainted with an old lady who is now in her eighty-fifth year. She is a mother of a large family. She had scarcely passed her thirtieth summer when, by one of the accidents that may befall a woman during her child-bearing life, was made an invalid, suffering for a period of a score of years. Much of the time she was confined to her room and even to her bed, rarely, if ever, able to walk half a mile. For the last thirty-five years she has enjoyed as fair a share of health as women generally do. She is able to get up and down on a chair as quickly almost as a girl of fifteen. She can walk a mile or two without any inconvenience, and has been for months past traveling alone on the cars or other conveyances, visiting her children and enjoying the pleasures of life. Be not discouraged, but hopeful. No matter what may have been your debility and suffering, you may, like the case referred to, have many years to live in the enjoyment of reasonable health, your latter days crowned with peace and pleasure.

Influence of the Death of Husband upon Wife.

The relation of husband and wife is perhaps not only the most sacred, but the most intimate and binding of all associations of life. It has its origin in the development of those social instincts that harmonize the various elements existing in two individuals into one symmetrical whole.

The disrupture of such a web, of which man and woman alone form the warp and the woof, cannot be

effected without serious damage to the whole. But this separation must, from the very nature of all human relations, take place. The scythe of Time cuts down alike all classes and all sexes, and the impress of the ruthless hand is seen in desolated homes. Women are seen daily in the thoroughfares and byways, walking with nervous tread and sad countenances, and draped in the habiliments of mourning. But a garb of wo lightly exhibits the sorrow and anguish that fills the heart of her who bears the ensign. The privations that are experienced by such loss must be felt to be fully appreciated. They make inroads on the health as well as the happiness and comfort of the individual. There are numberless women who can date their failure of health from such an eventful crisis. The writer is not in possession of any data, public or private, outside of his own observation to enable him to establish how much, if any, her reproductive functions suffer from the want of their accustomed stimulus. Men who stand high in place teach that sexual intercourse is a necessity to man, but not to woman ; that woman naturally has not so much secretion as man, and is provided with an outlet in Nature through the medium of menstruation, consequently she has not the same demands.

If this theory be correct, she will not physically suffer in the non-exercise of her reproductive functions. Indeed, it cannot be admitted that a life of continence in the male, which would necessarily follow in case of the death of the wife, would result in any serious damage to his health. There can be conceived no substantial reason

why the death of a husband should be followed with any serious injury to the widowed wife.

In the lower order of animals there is no damage physically sustained from want of use of their reproductive organs, which are much larger and secrete more copiously than does the human species. The woman who has lived a chaste and temperate life will only periodically have any desire for coition, and such periods are under the influence of the function of menstruation. When she has passed the climacteric, there will be nothing to stimulate the desire for coition. Hence, she suffers no inconvenience or injury in this regard at the death of her husband. The presumption is that her physical organism is greatly benefited. There is no physiological reason to believe that, as an independent being, freed from the responsibility of receiving and giving life by the death of her life-giving functions, her health is at all dependent upon acts that were even questionable in her reproductive state. In looking over the field of widowhood in mature age, and comparing widows' health and general appearance with women of similar age but living in marital life, the writer, from his own observation, is forced to the supposition that such widows do not only equal but fairly surpass in healthy appearance their more fortunate sisters.

The same is true of women who have become widows during their menstrual period; the health of any given number of such women will average fully as well as the same number of wives or spinsters in the same material circumstances. It has been said elsewhere, and will bear

repeating here, that there is no doubt of the beneficial effects of marriage and maternity on the health of many women. Wifehood, sexual coition and maternity are natural conditions to which the physiological organs and functions are specially adapted. It is fair to assume — and experience and observation bear out the assumption — that if these physical organs are never employed for their designed purpose, a perfect physical development cannot be reached. An unused talent rusts. An unused physical organ not only becomes unfit for use, but sympathetically affects the whole organism. As a rule, married women have a better physical development and health than unmarried women of the same age. Also, as a rule, married women who have borne children are superior in the same respects to those who are married and childless.

But a widow does not return to the condition of a spinster. If she has been married a few years, and especially if she has borne children, she has received the advantages to her health which compliance with this natural order can confer. If the opportunity to further exercise these reproductive organs be denied her through the death of her husband, no serious physical injury will result. On the contrary, she is likely to secure the benefits suggested before. The vulgar assertion that widows are eager to remarry rests upon some truth. If a woman has once been happily married and drank deeply of the joys of domestic bliss, it is not at all strange that the contrast of that state with her present lonely and barren one, should create yearnings for the former.

CELIBACY.

Advantages and Disadvantages.

EARLY in the history of the human race it was said by One whose knowledge surpassed the heavens: "It is not good for man to be alone." What was thus said of the man had equal application to the woman; for he must necessarily be alone if she be alone. Reasons abound and are not difficult to grasp, to substantiate the wisdom of the Divine declaration. A thousand years after this, however, we read of one, great in wisdom and authority among men, who counseled the men of Christian Corinth that they keep from such alliance, and remain as he was himself. Thus is Paul pointed to as the first celibate.

The application has been wrongly made. The apostle to the Gentile world was regarding marriage wholly from the religious standpoint, not from the social and economic. For himself, it were manifestly better that he take no cares of domestic life upon him. His mission called him to constant wanderings. The comforts and joys of domestic life must be untasted by him who was called to execute a great work. Time to him was brief. He was called to his work and mission after the vigor and enthusiasm of youth had been wasted, and he must use all expedition to redeem the

residue. To all of these to whom he wrote it was the same. But a few brief years could elapse before the account of life must be balanced, and then it mattered little what social relations had been made or left unmade.

A glance at the physical status of the married and unmarried ought to teach what the law of Nature on the subject is. Nature intends that men and women shall enjoy health and happiness. Marriage is a factor in human life. Does it contribute help or hindrance to the end and design of Nature? Specifically, is it true that the health of unmarried women is better than that of the married? The consensus of physicians and social statisticians is that the balance of health is with the married woman. Health and longevity during the child-bearing period of woman's life are more assured to those who have entered the married relation. It is a conclusion based on carefully compiled statistics and cannot be gainsaid.

There are reasons why this should be so. One is that there are not a few diseases which are not only mitigated but actually cured by the exercise of the privileges of the marital relation. Especially is this true of that class of ailments which are superinduced by functional derangements and disturbances of the reproductive organs. Chorea, or St. Vitus' dance as it is commonly called, is known to have been frequently cured by mar riage.

The physical organism of woman is adapted to child-bearing. This is an end of her being. Considering the human race merely as animals, this is a most important

end. The organs, frame, and instincts show that the propagation of her species was intended to be secured. Nature creates nothing without a purpose, and yields the richest blessings where her laws are followed most closely; and, conversely, she is severely unrelenting in punishing those who neglect or defy natural laws. These are general rules, and have some exceptions. Indeed, from the very nature of society there must be those women who cannot marry, or who, having married, cannot bear children.

The woman who never marries enjoys some advantages over the one who does. She escapes the drudgery and cares incident to governing a household, and the restrictions on liberty necessary to the rearing of a family. The woman who makes a home bright, orderly and cheerful, and who rears three or four children, has little time to devote to herself. Marrying at perhaps twenty-two or twenty-five, for ten years to come — or until her youngest child can be left without anxiety — she must give her whole attention to home. These are the ten best years of her life; the years when she would most enjoy the pleasures of society and enter most heartily into its amusements. Her celibate sister, if she have a material competence, can come and go at will. She can give her whole time to herself, in enlarging her sphere of observation, in cultivating her mind, in keeping abreast with the progress of the world.

She escapes, also, the pains and dangers peculiar to maternity and the ravages which such trials make upon the system. Mothers are never without concern for their

little ones, who have to run the gauntlet of a thousand diseases and an incalculable number of accidents. Anxious solicitude by day and night wears upon the mother, and robs her of freedom to enjoy personal comfort. When the children reach maturity, she still is concerned about them as they go out into the moral temptations and pitfalls which lie along the course of life. The unmarried woman escapes all this. Her life is free and her mind is free.

Even if she be a poor girl and compelled to earn her own living there are now numberless avenues in this country in which she can earn a comfortable living and lay by somewhat for old age. Thousands of women are doing this to-day. Almost all the professions are open to her, and, as with men, merit and industry are certain to insure success. Teaching in public and private institutions has become very largely the work of women, while telegraphy, stenography, type-writing, etc., offer opportunities for earning excellent salaries at work congenial to her disposition, and for which she is peculiarly adapted. Literature and journalism in most of its departments afford women of intellectual culture a wide and rich field, into which many have already entered and are reaping a bountiful harvest.

Her social advantages are many and she has the liberty to take advantage of all. The democratic spirit of America allows no distinctions which one's own merit do not originate. The man or woman who is intelligent, honest and pure, has an open sesame to cultured social

circles. Poverty and labor do not debar from entrance into or enjoyment of the best society. Her sex is her protection and a point of advantage if she have qualities which entertain and please.

One essential disadvantage of the single life to a woman is that she cannot always remain young. Indeed, the facts of observation and experience decide that she cannot maintain her youth of body, mind and disposition, so long as her married sister. Many married women never grow old in mind ; they renew their youth in their children and are fresh and cheerful long after there are " silver threads among the gold." Few unmarried women are able to do this. The acid disposition and censorious spirit commonly attributed to the spinster of forty or more, is only colored ; it has a basis of truth in natural causes. There is occasionally to be found an unmarried woman who grows old without losing her amiability and sweetness, but these cases are not numerous. If a woman deliberately elects to remain single, she must take the risk of becoming sour, exacting and disagreeable.

Another decided disadvantage is that she misses the completeness of life, the fullness of development and the profundity of happiness which comes to the wife and mother. Standing afar off and separate from the full-blown mother-love, the care of children appears to be an irksome, wearying task. Ask the mother and she will say that she would not part with one care. Each has its compensation in the satisfying joy that wells up in her soul in the possession of her husband's and children's love. It is

a happiness that cannot be measured; a satisfaction and comfort that nothing else can give. There are depths to a woman's nature that are never fathomed until she becomes a mother. There are sources of happiness that remain sealed until opened up by the prattle and caresses of the toddling infant.

She misses, also, the delight of having a home of her own. A place that is sacred to domestic enjoyment, which she herself creates and of which she is the queen. Home has its cares and its trials, but there is no place like it on earth. There is no real, desirable life without a home somewhere in it. It is not sentiment, but the most prosaic practical common sense which attributes to the home and the home life all the virtues that are noble, all the happiness that abides and satiates. The unmarried woman or man can never have a home in the full sense of the term. The essential factor is wanting and always must be wanting. Old age has no cheerless prospect to the wife and mother. It is full of a serene calmness and holy joy.

Marriage and maternity is the better way. There are trials but there are adequate compensations. Celibacy may escape some physical ills, but it leads to others. It has its liberty and independence, but it has also its selfishness and its barrenness.

SPREADING THE NEWS.

DISEASES OF WOMEN.

General Remarks.

In a work of the present limits it will be impossible to speak of all the ailments incident to womanhood. Reference will be made, however, to the most common, the leading features of which will be succintly and faithfully presented.

It is not, however, expected that women uneducated in medicine will be enabled to treat all the forms of disease mentioned in this volume. Disease not infrequently assumes a very severe form; hence, the attention of some skilled practitioner will be promptly required in order to maintain the forces of life against the ravages of disease.

The diseases treated in this work will generally yield to the remedies suggested, and, therefore, these may be regarded as eminently reliable for their curative effects. The prime intention or object is not to treat of disease as disease, but of woman in her liability to certain disorders. The physical constitution of woman and her physiological functions render her liable to ailments which are peculiar to herself, and commonly and currently referred to as "female diseases." In the incipiency of many of these, proper precautions intelligently taken will often ward off the more serious form of the complaint.

Woman is naturally modest and sensitive. She instinctively shrinks from revealing, even to an intrusted counselor, the fact that she is troubled with disagreeable symptoms or functional disturbances in her sexual organs. She shrinks still more from treatment at the hands of another. She is not likely, in most cases, to give an intelligent statement of the disorders which she knows to exist. To treat her is an embarrassing task, even at best, and is rendered doubly so by her inability to clearly, definitely and satisfactorily state the case.

For reasons like these it is thought that many women may be benefited by having stated, for them, the symptoms of a few of the principal complaints to which their organisms are liable. I shall point out remedies which she herself can safely apply. She can at least be enabled to know, in most instances, whether or not the discomfort she feels be the symptoms of serious complaints, and can know when to call in her medical adviser in time to derive the full benefit of his skill.

In another part of this work, describing the symptoms of pregnancy, general directions for the hygienic regulations of the period were given. These need not be repeated here, though properly coming under this classification. This chapter will be devoted to what is technically termed therapeutics — that is, the treatment of diseases. The diseases noted will be those to which women are liable during the child-bearing period of life.

Many physicians, in the present advanced state of medical science, maintain that a woman in perfect health,

who carefully observes and practices the plain laws of health, and who is prudent, temperate and careful in the exercise of marital relations, will escape these complaints. Marriage and marital intercourse are natural and right. What is natural and proper ought not and need not involve any evil consequences. The diseases of the pregnancy-period are both unnatural and unnecessary. The reasonable and moderate exercise of the procreative instincts and impulses is in harmony with natural law and order, and ought not to produce disorder.

It is observed that in the lower animal world, cohabitation, pregnancy and parturition are unattended with such calamities as befall womankind. Is man an exception, in this regard, to the general harmony of natural works? It is not in keeping with the wisdom of the great Author of Life that disease of any kind should be the result of the execution of natural laws ; it should only be the penalty attached to the violation of law. God, in the great scheme of providential dealings with His creatures, placed them upon this beautiful heritage of earth, endowed with minds susceptible of the highest development, and a physical organism of the most infinite perfection, that the waste resulting from the wear in operation should be so insidiously replenished as to incur no special clash in its normal movement.

Enjoying, then, as we do, such exquisite perfection in construction and perfect adaptation of the several parts to the end designed, it requires no great stretch of the imagination to infer that, in the proper exercise of the physical

economy, the several organs should perform their alloted work without friction. Hence, all diseases are the result of the violation of the laws of our being, either by acts of omission or commission.

We may commit a crime against our own bodies by neglecting to supply anything which is manifestly necessary for their sustentation and preservation; or, we may be equally criminal by imposing upon them damaging burdens to carry or hardships to endure. The natural result of improprieties is damage to the parts involved, and such damage has received the common cognomen, disease.

Whether or not it can be fully established that all physical suffering is the consequence of the violation of physical law, it is nevertheless true that such suffering is greatly enhanced by an improper course of living. Disease, then, being a violation of law, health, which is opposite, must be an observance of law.

Definition of Disease.

Health is the standard condition of the living body, but it is not easy to express that condition in a few words, nor is it necessary. We should aim at being well understood, rather than to be scholarly, and were the attempt made to lay down a strict and scientific definition, it would likely puzzle both writer and reader. I shall, perhaps, be well understood when I define health by saying that it implies freedom from pain and sickness, and from all those changes in the body that endanger life or impede the easy and effective exercise of the vital functions

It s plain, therefore, that health does not signify any immutable condition of the body. The standard of health varies in different individuals, according to age, sex and original constitution, and in the same persons even from week to week, or from day to day. Neither does health imply the integrity of all the organs of the body. It is not incompatible with great and permanent alterations, nor even with the loss of parts that are not vital, as an arm, a leg, or an eye.

If this definition of health be comprehended and accepted, it naturally follows that disease — the antipode of health — may be defined simply as some deviation from the condition of health. Cold is the absence of heat; it is the negative of a positive. Health is positive, disease negative. Disease, then, is an abnormal condition of the body; some uneasy or unnatural sensation, of which the patient may be aware, or some unsafe or hidden condition of which he may be quite unconscious; some embarrassment of functional action perceptible to himself or others. In short, some mode of being, or of action or of feeling, different from that which obtains in health.

The number of these deviations from the standard of health — that is, the number of diseases — if we include all their differences in kind and degree, is scarcely calculable. The purpose at this time and in this work is to refer only to those most common which especially attack the female organism.

With this imperfect definition of disease, a few of the leading causes of some of these deviations from health will

be given, that women may be the better able to forestall or prevent them, and thereby reap the benefit of the adage that "an ounce of prevention is worth a pound of cure."

There are two principal causes of disease, namely, predisposing and exciting.

In the strictest sense, an event is held to be caused by another event which preceded it. Were the first absent, the second would never follow; if the first be present, the second never fails to occur. This rule, however, is too arbitrary to apply to the causes of disease. We perceive that such and such circumstances often precede such and such diseases, and that the diseases seldom happen without the previous observance of the same circumstances. Consequently, we begin to regard those circumstances as the specific cause of those diseases. We find that the diseases are most common among those who have been exposed to the agency of the suspected causes. This may seem at first to be only presumptive evidence, but when, from observation, we find that almost uniformly such diseases follow in the wake of such suspected causes, we have to assign to the two consecutive events the relation of cause and effect.

But, because certain suspected causes are not immediately followed by the same results, we have no disproof of the influence of the suspected cause in the result. Some persons are more easily influenced by those circumstances than others; even the same person is more liable to be influenced by the same circumstances at one time

than another. And special circumstances, existing in certain cases, will account in some degree for this variable operation of causes always producing the same effect. These special circumstances may properly be called predispositions. Thus, if ten persons be exposed to the same noxious influence, such as a severe douching with water succeeded by extreme cold, one may be affected with catarrh, another with rheumatism, one with pneumonia, a fourth with inflammation of the bowels, and the remaining six may escape unharmed. Or a woman may do that to-day which at another time would jeopardize her life.

It is not, therefore, the cause alone that in all cases determines the disease. Sometimes very much, or perhaps all, depends upon the condition of the body at the time when the cause is applied, and this condition of the body with evil predisposition results from circumstances then in operation; and these circumstances are called "predisposing causes."

We might, then, define a "predisposing cause" to be anything whatever which has had such a previous influence upon the body as to have rendered it unusually susceptible to the specific causes of the particular disease.

Disease may sometimes be averted, even despite strong and fixed predisposition to it, if we know and can guard against the agencies by which it is capable of being excited. A man may inherit a proclivity to consumption, yet fortunately escape that fatal complaint by timely removal to a warm and equable climate, and by other

suitable precautions — that is, by avoiding whatever tends to rouse the dormant tendency into action. On the other hand, disease may often be warded off, notwithstanding the presence and application of its specific cause, when its "predisposing causes" are ascertained and can be prevented. In proportion as the body is weakened or exhausted, it yields more readily to the pernicious influence of contagious diseases. By obviating all causes of debility, and fortifying the system, we walk with comparative security amid surrounding pestilence. Diseases sometimes occur when no specific cause — when no cause at all — has been apparent. All that can be said in such cases, is that the causes have not, as yet, been discovered.

The ascertained causes of disease are many and various. Whatever ministers to life, health or enjoyment may become, under varying circumstances, the medium of pain, disease and death. The atmosphere in which we are constantly immersed is full of dangers. Both the organic and inorganic world around us are full of poisons. They lurk in our very food, which becomes pernicious when taken in excess, or when it consists of certain substances or certain admixtures of substances; there really was much truth in the startling motto of Mr. Accum's book on adulterations: "There is death in the pot." Our passions and emotions, also, nay even some of our better impulses, when strained or perverted, tend to our physical destruction. The seeds of decay are within as well as around us. Let us enumerate, however, a little more particularly, the various known sources of disease.

We shall pass over, in this enumeration, nearly all chemical and mechanical injuries, as they belong to another department of medicine. If we look to atmospherical causes, we shall find that those variations in the state of the air which proceed from differences of degree in natural qualities may be productive of disease — such as extremes of heat, and of cold; sudden variations of temperature; excessive moisture or excessive dryness; different electric conditions; difference of pressure as measured by the barometer; a deficiency of light, etc. Again, the atmosphere may be a source of disease in consequence of its being loaded with impurities. Malaria, contagions of various kinds, and noxious gasses in general, may be considered as so many poisons.

Under the head of nutriment we may place the use of food of which the quality is bad and hurtful. This cause also strictly belongs to the class of poisons. Again, it may be an insufficient supply of healthy food. A still more common cause is an excess in eating and intemperance in drinking. The numerous poisons that are not comprehended under either of the foregoing heads are also prolific sources of disease.

Another great class among the causes of disease might be formed by considering together the influence of various trades and vocations which are directly injurious to the health of those who pursue them. We know by example and experience that a certain amount of bodily exercise is essential to good health. We see the evil consequences of much overstepping that amount in the deformities and

disorders which result from labor too severe, or too long continued. But a much more numerous train of complaints follow the opposite state — that in which, from indolence or necessity, but little exercise is taken.

Excessive indulgence in sleep, on the one hand, and long continued want or interruption of repose on the other, are apt to give rise to serious maladies.

Many diseases have a mental origin. Excessive intellectual toil, the domination of violent passions, the frequent recurrence of strong mental emotions, vicious and exhausting indulgences — each and all will sap the strength and grievously impair the health of the body. Perhaps there is no cause of corporeal disease more clearly made out and more certainly effective than protracted anxiety and distress of mind.

When we add to this catalogue of the sources of disease, all those morbid tendencies which are hereditary, and those which flow from original malformation and are irremediable, we shall have a tolerably complete list of the manifold dangers to which our mortal frames are continually liable.

There are several points of view under which the consideration of these causes of disease might be shown to be interesting. We might inquire, for example, which of them are predisposing, which specific causes, and what are the circumstances which are found to render the same agent at one time merely a predisposing, and at another time a specific cause. We might also separate, with some advantage, those causes of disease to which the human

body is often and necessarily exposed, and those that consist in agencies that are of a local or temporary existence only. But such distinctions would require more exhaustive treatment than is possible in this work. The nature and mode of operation of these causes is a very fruitful field of inquiry, but our limited space, as well as the object of the work, forbid entering upon it.

The Various Kinds of Pulse.

The pulse is the beating of the arteries following the contractile action of the heart. The radial artery at the wrist is commonly made use of in order to ascertain the force, frequency, etc., of the general circulation. An examination of the pulse, taken in connection with other symptoms, is often of the greatest utility to the physician in enabling him to determine the peculiar character of different diseases.

Not merely the frequency and force, but the fullness, hardness, etc., as well as the opposite characteristics are to be carefully noted. It is, however, of the utmost importance that we take into consideration those variations, temporary or otherwise, which are not necessarily dependent on a state of disease.

Not only may the force and frequency of the pulse be greatly increased by a mere temporary cause (such, for example, as extraordinary exertion, sudden alarm, etc.), but, owing to certain constitutional peculiarities, the pulse of some persons in a state of perfect health is uniformly much more frequent than the general average in man. As

a rule the pulse in a person of an excitable temperament is considerably more frequent than in a man of an opposite character. It is usually more frequent in women than men. It is estimated that the pulse of an adult male, at rest in a state of perfect health, has from sixty-five to seventy-five beats per minute. An infant at birth has from one hundred and twenty to one hundred and forty pulsations per minute ; a child a year old, from one hundred and ten to one hundred and twenty ; at three years old, from ninety to one hundred ; at ten, from eighty-five to ninety ; at puberty, about eighty. As life advances, the pulse usually becomes slower, until the infirmities of age begin, when, as a result of debility, it is often increased in frequency. Of the different kinds or characters of the pulse, the following are, perhaps, the most deserving of notice :

1. *Dicrotic Pulse.*—That in which the finger is struck twice (first forcibly, then lightly) at every pulsation.

2. *Filiform* (*or thread-like*) *Pulse.*—That in which the pulsating artery seems so narrow as to resemble a thread.

3. *Gaseous Pulse.*—One in which the artery seems full and very soft, as if it were filled with air.

4. *Hard Pulse.*—One which does not yield under the firm pressure of the finger.

5. *Intermittent Pulse.*—One in which the pulsation every now and then fails, or seems altogether wanting. This is a common symptom in disease of the heart, though not infrequently resulting from derangement of the nervous system, caused by dyspepsia.

6. *Jerking Pulse.*—One in which the artery seems to strike the finger with a sudden start or jerk.

7. *Quick Pulse.*—One which has a quick or sudden beat, though the intervals between the beats may be of the usual length.

8. *Small Pulse.*—One in which the pulsations are both slender and weak.

9. *Tense Pulse.*—One in which the artery seems stretched or filled to its utmost capacity. It resembles a hard pulse, but is more elastic.

10. *Wiry Pulse.*—Not thread-like, but very hard, as well as narrow, and seeming to strike the finger as small tense wire.

The signification of the other terms applied to the pulse — as bounding, feeble, frequent, full, soft, etc. — seem so simple and obvious that it is not necessary to speak specifically of them.

Something more may be said of the qualities of the pulse. Those that are most important are its frequency, regularity, fullness and force. We have given the normal number of beats in a person in health, per minute, at different ages. In disease there is quite a wide range, according to observance, between the degrees of frequency in different kinds of attack. It must not be forgotten that the position of the individual at the time of the examination of the pulse has an influence over its frequency. Its beats are more numerous in the standing than in the sitting posture; in the sitting than in the recumbent.

In disease the pulse may acquire a degree of frequency which is scarcely calculable by the touch, and less so because, when extremely frequent, it is also extremely feeble. Watson says he has reckoned by aid of the stethoscope 216 pulsations of the heart per minute. On the other hand, in cases of apoplexy, or where syncope is impending, or certain organic affections of the heart, the pulse may become extremely slow. Dr. Chambers reports the case of an old gentleman whose spinal column had received some injury, whose pulse fell as low as nine beats per minute.

A great deal may be learned of certain diseases from the frequency and regularity of the pulse. Irregularity of the pulse is another condition which is often full of meaning and interest, inasmuch as it may be found both in the sick and well. Some persons have naturally an irregular pulse. Irregularity of the pulse may be caused by organic diseases of the heart, by simple disorders of the stomach, or be the result of debility, and the prelude to the stoppage of the heart's action.

Another important quality of the pulse is what is called its hardness or compressibility. In this character of pulse you will not be able to abolish the pulse by any degree of pressure. The blood will still force its way through the artery beneath your finger. This quality is generally found in patients where there is existing inflammation, and was the signal in former times for displaying a lancet.

Wasting or emaciation is sometimes the first symptom of disease. This may be seen in the countenance at a

very early period. It occurs frequently in complaints that are not dangerous, as dyspepsia, and in those peculiarly nervous women who shall be spoken of hereafter.

We have examples of symptoms that consist of changes of color — in the flushed face of fever; in the pallor belonging to many diseases; in the contrast exhibited between the white cheek, with its central red spot, so characteristic of hectic fever, and in the yellowness of the skin and eyes, in jaundice.

The various appearances of the tongue are to the observer a symptom of the character of disease. The heavy, white coat is present in acute inflammation, as pleurisy; the clean, smooth and red tongue shows a diseased condition of the mucous membrane, of the alimentary canal, etc.

These remarks on the causes of disease; the characteristic qualities of the pulse; the general emaciation and expression of the countenance; color of the skin and appearance of the tongue may enable you to form some intelligent idea of what constitutes the difference between health and disease, that you may know when there is a necessity for alarm, that valuable lives may not be lost through neglect, nor unnecessary concern be had when but little is the matter.

Morning Sickness and Vomiting.

Reference was made to this peculiar disease of women in the review of the symptoms of pregnancy. We need not go into any lengthy description of it here. Nausea

and vomiting are very common, generally on first rising in the morning. Vomiting illness sometimes commences immediately after conception, but usually not until after the second month, and generally lasts until after the fourth month. Generally, there is nausea rather than vomiting. The woman feels sick and unable to eat her breakfast, and often brings up some glairy fluid. In other cases she actually vomits, and sometimes the sickness is so excessive as to resist all treatment and seriously affect the patient's health, and even imperil her life.

No satisfactory reason has as yet been adduced for the cause of this disease. The opinion that has met with the most favor is that it is the result of the stretching of the uterine fibers by the growth of the ovum. But even to this theory there exists the objection that in many cases the sickness is coincident with conception, and before there is time for the development of the ovum sufficient to make any pressure upon the uterine fibers. Notwithstanding it is a very distressing ailment, it has generally, by observance, been regarded as a favorable condition, and indicates a safe pregnancy.

The danger in this disorder arises mainly from its being mistaken for some more serious disease of the stomach, for which there might be administered such treatment as would produce an abortion. This mistake is not likely to be made by women who have had children and have been thus troubled, but by women in their first pregnancy. Especially so, if they have lived with a husband for several years without issue. The nausea and vomiting of preg-

nancy are generally felt in the morning upon assuming an erect position, while the disturbance of the stomach produced from other causes is more or less present at any time of the day.

Treatment.

Rest in bed will prevent an attack, and it being a disorder that will of itself disappear in a short time, many women can afford to take this prescription. Regulate the bowels by seidlitz powders, karlsbad and effervescing waters. Carbonic acid acts as a carminative and anodyne. For vomiting from acidity of the stomach take bicarb. potass. two drachms ; spirits of ammonia, aromatic, half-ounce ; peppermint water, two ounces ; mix and take a teaspoonful when necessary to relieve the acidity. For vomiting from irritation, spirits of chloroform, one drachm ; tincture of ginger, two ounces ; mix and take twenty drops at each meal.

Oxalate of cerium, twenty-four grains ; ext. of gentian, six grains ; mix and make three pills, take one pill at meal-time.

Citrate of caffein, in from one to two grain doses.

The bromide of potassium in ten to twenty grain doses as an anodyne.

The food should depend upon the idiosyncracies of the patient — solid animal food with high seasoning for some; barley water or milk and lime water for others.

Pains in the Bowels.

Abdominal pains that are quite severe and troublesome sometimes accompany pregnancy, more especially in the latter months. They may result from two causes — either from the pressure of the child upon the abdominal muscles, or the pressure of flatus, which sometimes is great, resulting from want of proper digestion of the food. If the pains proceed from pressure of the abdominal muscles, manipulation by kneading lightly or rubbing the affected muscles will do much toward relieving it. If the pains proceed from flatus, attention should be paid to the digestion, and appropriate remedies administered to improve it.

Constipation.

But few diseases give women more trouble than constipation. It is not only a very troublesome disorder in pregnancy, but it affects individuals at other times. In this disease of the alimentary canal the expulsive power is either relatively or absolutely at fault ; the feces collect in some parts of the bowels, and are sometimes passed in considerable quantities at a time. Some portions of the stool may be drier than other parts, and look dark-brown or black ; they usually have less smell than ordinary feces.

Experience shows that one free evacuation from the bowels daily is the rule of health. But this rule is not without exceptions. Some persons have habitually two

or three evacuations daily. On the other hand, some have an evacuation regularly every second or third day without any of the inconveniences of constipation. In fact, persons of the latter habit are apt to experience discomfort, if, temporarily, evacuations take place daily.

On determining the existence of this affection, the habit in health is, of course, to be taken into account. In some cases the movement of the bowels is delayed two or three days, but when it does take place, it is amply sufficient. In other cases, the act occurs daily, but is insufficient, and is performed with difficulty.

Constipation gives rise to various local morbid effects, such as a feeling of pressure or weight in the perineum, a sense of abdominal distention or uneasiness, flatulency, diarrhea and colic pains. Hemorrhoids, or piles, are often attributable to this affection. It gives rise, also, to pain in the head, dullness of the mind, flushing of the face, palpitation of the heart and general *malaise*.

In a state of health, the rectum, or lower part of the large bowel, is empty. This portion of the bowel is endowed with a sensibility which, in health, gives notice of the presence of feces, and occasions the desire to evacuate. The ability to perform the act involves a certain contractile power in the large intestine, and also in the abdominal and other muscles which coöperate in the performance of the act.

In habitual constipation, the contractile powers of the intestine are impaired by distention. The distention may be owing to the large quantity of fecal matter in the

bowel; but is generally the result of the habitual neglect of the calls of Nature. The desire to evacuate is neglected, or, the mind being preoccupied, the call is unheeded and the act is postponed, until the sensibility departs and the bowel no longer gives notice of fecal accumulation. Hence the accumulation goes on; the rectum and other portions of the bowel become distended, and paralysis follows. This is the manner in which constipation, in a large majority of chronic cases, is produced. The hurried performance of the act of emptying the bowels, the evacuation, as a consequence, being incomplete, has, in some degree, the same result as the neglect of the calls of Nature. In the country, especially, the provision for such act may be uncomfortable, rendering the act disagreeable, so that insufficient time is devoted to it.

There are other circumstances that contribute to this affection. The abdominal muscles play an important part in the act of moving the bowels. These muscles become weakened by obesity and pregnancy. In pregnancy the muscles are wonderfully distended, and lose their contractile power. The muscles of the bowels themselves, as well as the abdominal muscles, lose their contractile power from anemia, impoverished blood, and other enfeebling conditions of the system. The habitual use of purely nutritious food, which leaves but little residue, contributes to constipation. Sedentary habits favor the affection, as well as too-active exercise, by rendering the assimilation more active, the liquid contents of the small intestines being more entirely absorbed.

Treatment.

Occasionally constipation, if slight, may be relieved by a laxative pill, repeated, if necessary, or by a small quantity of Epsom or Rochelle salts dissolved in a tumbler of water and taken on an empty stomach. Congress water may be substituted for the salts just named. A preferable method, which will generally suffice to excite the action of the large bowel, is an injection of cold water.

The practice of taking active purgatives to overcome the habit of constipation cannot too strongly be condemned. Their effect is to increase the peristaltic action, and thereby produce an evacuation. This will be followed by a corresponding increase of inaction and dryness of the bowels. The management of habitual constipation often requires much care and perseverance on the part of the patient. The object is to procure regularity and efficiency in the evacuations. The means which may be employed are various, and may be said to consist of three important factors — in their nature dietetical, medicinal and mechanical.

The dietetical method consists in using articles freely which leave, after digestion, a bulky residuum, as cabbage, lettuce, and the various vegetables known in this country as greens; or articles having a laxative property, as molasses, prunes, figs, etc., or articles with indigestible constituents which stimulate or irritate the alimentary canal, as bran-bread, cornmeal, cracked wheat, unbolted-

flour bread. A diet consisting of a part of the foregoing articles will sometimes succeed in overcoming habitual constipation.

With regard to the choice of this class of means, the following practical rule should be adopted; They should not be used in preference to other means if they occasion indigestion, or disorder of the stomach. More harm sometimes results from overloading the digestive organs with articles of diet difficult of digestion, or subjecting the lining of the bowels to the irritation of unbolted flour, than the continuance of constipation would occasion. A glass of simple water or carbonated water, taken in the morning before breakfast, is sometimes very efficacious. Drinking half a pint or more of hot water before meals is equally so.

The medicinal means are laxative medicines. In regard to these the remedy used should be mild and the quantity as small as will be sufficient to secure the end sought. Active purgation is to be avoided. Some persons allow the constipation to continue for several days and then resort to large doses of pills or some active cathartic to give them relief. The constipation is of course relieved for a time, but the constipated habit only becomes more and more fixed by such a course. Another important rule is to be observed in taking medicine. If more than one small dose of laxative medicine be required, the remedy is better repeated in small doses two or three times daily, than by giving one dose sufficiently large to produce the effect.

In regard to the choice of remedies, nothing seems to answer most cases better than aloes and myrrh. This may be combined with hyoscyamus, belladonna, or nux vomica; also some tonic, as sulphate of quinine, or some preparation of iron.

Pills made, two grains each, of aloes and myrrh, and one-fourth grain of nux vomica or belladonna, and one of them taken after dinner each day, will prove to meet the requirements of most cases. To persons who have an aversion to taking pills, a No. 2 capsule may be filled from the powder of equal parts of aloes and myrrh. If a liquid be preferred, take a teaspoonful of the combined tincture of aloes and myrrh at bedtime. Whichever form of taking the remedy may be adopted, the dose should be regulated so as to attain the end sought gradually, diminishing it as the constipation subsides. A small piece of rhubarb root chewed at intervals through the day is a very satisfactory remedy in some very obstinate cases.

A few drops of the tincture of colchicum taken after each meal answer sometimes admirably. Prunes, stewed in an infusion of senna, are not unpalatable. The confection of senna and medicated figs is also suited to persons who do not like to take pills.

The most important thing for patients who are troubled with constipation is the adoption of a rule to solicit evacuation at the same hour daily. The success of this plan depends upon the absolute regularity with which it is put in practice. The time of day may be selected so as to best accommodate the circumstances of the patient.

Choose that hour of the day when you will least likely be interrupted, and will be enabled to give sufficient time for the act of defecation without making a too persistent effort. For many reasons immediately after breakfast is the better time, and its observance should be regarded as a duty, not to be omitted for a single day, except from necessity. It may be long before the desired object can be accomplished, but, sooner or later, with the aid of some of the means that have been indicated, the desire will be felt at the appointed hour, and the ability to defecate at that time will be acquired in the great majority of instances. Much will depend, however, upon the will-power of the individual to persevere until success shall crown the effort.

The mechanical means consist in the use of enemas and suppositories. The regular use of an enema of cold water, at the same hour every day, is a simple and oftentimes an effectual means, and is materially aided if a few drops of the tincture of camphor be added to the enema. Sometimes a suppository of soap answers the purpose of stimulating the bowel to a regular and efficient evacuation.

Treatment of Constipation by the Swedish Movement Cure.

In order the more readily to convey a definite idea of the principles on which the Swedish movement cure is based, and the mode in which those principles are carried into practical execution, Dr. Benjamin Lee gives the

following prescription for that *bête noire* of the profession, constipation. It will be observed that each clause of the prescription contains two parts; the first is the attitude or position to be assumed by the patient in taking the movement; the second is the movement itself. These parts are distinguished by drawing a line down the middle of the prescription:

1 Heave, standing.	Chest expansion, deep inspiration.
2. Half lying.	Leg flexion and extension (P. r.)
3. Half ride, fall sitting.	Trunk twisting (P. r.)
4. Toward, standing.	Thigh extension forced (P. l.)
5. High ride turn sitting.	Circular, twisting, with pressure upon the stomach and in the lumbar region.
6. Extension standing.	Colon stroking.
7. Forehead fix, high knee.	Spine extension, forced (P. r.)
8. Astride standing.	Liver vibration.
9. Lying.	Abdomen kneading, pressure with vibration over the solar plexus.

The attitudes being various, their nomenclature is necessarily somewhat cumbersome, while its foreign parentage makes it awkward to American ears. Suffice it to say that each variation has reference to special groups of muscles or certain organs.

The first movement in this prescription is a respiratory one, taken in the erect position, with the chest thrown out, and accompanied by deep inspirations, its object being to invigorate the entire system by introducing a large amount of oxygen into the blood-supply, to bring both muscles and nerves into a highly-vitalized state, in which they will respond most readily to the stimulus of the subsequent movements.

The second is a deviation designed to relieve congestion of the abdominal organs by drawing down the blood into the lower extremities. In this the trunk is placed at rest in a semi-recumbent posture. The letters "p. r." will be noticed immediately after this movement. They signify that the patient resists, the movement being made by the operator. This is, therefore, a duplicate movement. The entire will of the patient being concentrated upon this effort, it is powerfully revulsive.

The third principle has two chief ends — the first, pressure upon the entire abdominal walls, thus relieving congestion by forcing the blood out of the large vessels; and secondly, invigorating and developing the transverse and oblique abdominal muscles, which are rarely brought into play in ordinary exertions. The attitude is such as to fix the pelvis. The arms are then crossed over the top of the head, and the extended elbows are made use of as a lever, by means of which the trunk is twisted or rotated upon its axis, the patient resisting the operator's effort.

The fourth stretches the abdominal muscles, especially those of the rectum, thus inviting a copious flow of blood

into the capillaries, while, at the same time, by irritating the muscles about the hip, the perineum and the psoas iliacus, it stimulates the nerves of the lumbar and pelvic plexus.

The fifth consists in a rapid rotation of the entire trunk upon the pelvis, bringing all the muscles of the lower part of the trunk into play and subjecting the pelvic viscera to alternate pressure and relief from pressure. It promotes activity in the portal circulation, and stimulates peristaltic action. It is accomplished with firm pressure upon the stomach and in the lumbar region, the former with a view of stimulating the solar plexus and the latter the lumbar nerves.

The sixth movement is entirely passive, the patient standing, while the operator slowly and firmly strokes the colon in the direction of its vermicular wave. Its primary object is to accelerate the passage of fecal masses and flatus through that portion of the canal, and its secondary object is to stimulate its rhythmic contractions.

The seventh produces extreme erection of the spine, thus affording increased space for the abdominal organs, usually compressed by improper attitudes.

The eighth movement is the Movement Cure "blue pill." The patient takes such an attitude as will tightly stretch the muscles of the right side, and the operator then produces a rapid vibration of the parietes of the chest and abdomen immediately over the liver. The effort is to relieve the congestion of the liver and excite a healthy flow of bile. Finally, the patient lies upon his back, and a thorough

kneading of the abdomen is given, followed by pressure and vibration over the solar plexus. The circulation of all the abdominal viscera is thus stimulated, the passage of both chyle and feces through the alimentary canal is aided, healthy secretion is promoted, undue accumulations of mucus are dislodged, and the great nervous center of the organic system is roused into the highest state of activity. There are very few cases of constipation, however obstinate, which will resist a fortnight of this treatment daily, and many cases will yield in a week. The time occupied in carrying out this prescription is about an hour.

Diarrhea.

Diarrhea is the opposite condition from constipation, and is not so frequently a disorder of women. It may alternate periodically with constipation. It very rarely affects pregnant women, and, when it does, is the result generally of indigestion or of irritability of the nervous system, producing an excessive action of the peristaltic muscles of the bowels, aided by an excess of fluid poured into the canal, resulting in repeated watery discharges. There may be only a single defecation that entirely unloads the whole alimentary canal. This condition is almost uniformly followed by a period of constipation.

This form of diarrhea is the result of mental emotions, and especially the depressing passions — grief, and above all, fear. As, for example, a sudden panic will operate on the bowels as quickly as a dose of the most active cathartic. Among the circumstances which predispose

most persons to this kind of malady are the hot months and autumn.

This form of diarrhea — from occasional irritation produced by the pressure of substances that offend the stomach or bowels — will generally cease of itself, and, as I have said, be replaced by a period of constipation. The purging is a natural way of getting rid of the irritating cause. The recovery may be favored by the use of diluent drinks, and abstaining from all future use of food that is not perfectly easy of digestion. Sometimes it may be necessary to give some safe purgative, as salts and senna, thereby sweeping out the whole alimentary canal, and then soothe the bowel by some preparation of opium, or five to ten grains of Dover's powder; or you may take the aperient and anodyne together. A tablespoonful of castor oil with six to ten drops of laudanum dropped into it, or fifteen to twenty grains of pulverized rhubarb with from five to eight grains of Dover's powder in it, will answer well. By some such medication as this, emptying the bowels when necessary, and guiding them, the cure is generally accomplished with ease and speedily.

We sometimes, however, meet with cases in which the diarrhea runs on; the stools are composed of fecal matter in an unnaturally fluid state. The precise condition upon which this disposition to an over-loose state of the bowels depends, escapes detection — that is, you may not know of any attributable cause.

If the disorder be only slight, it may yield to some of the common vegetable astringents — say, a decoction of

blackberry root with the addition of a little cinnamon essence. If there be acidity of the stomach, the chalk mixture, or subnitrate of bismuth in ten to twenty grain doses, will be serviceable. If, however, it still persist, only being temporarily relieved by these remedies, recourse may be had to ten grains of pulverized sulphate of copper and forty grains of ipecac, and ten grains of gum arabic; mix into a pill made by the addition of a little water, and divide into forty pills. Take one two or three times daily, and pay proper attention to the diet, using only such food as may be easily digested and soothing to the bowels.

Dr. Miller Fothergill makes some wise suggestions in regard to the food in cases of diarrhea, which are worthy of respectful consideration, as they are the observations of a man of acknowledged intellect with great experience. He says: "One broad rule may be laid down, and it is this: So long as animal broths are permitted, so long will diarrhea be intractable. Again and again has this been driven like a spike into my memory. Of course I have learned the lesson for myself; but in my position as a consultant it comes under my notice in cases treated by others. There is anything but a general recognition of this fact; and few of our clinical residents at Victoria Park Hospital have not this lesson to learn. Milk with farinaceous substances forms the food in diarrheal conditions. Arrowroot (raw) is the food cure for diarrhea among children, in the opinion of the British mothers. Starch certainly soothes the alimentary canal, and a sago, or even

better, a tapioca pudding, forms soft wadding for a bowel with an irritable mucous membrane. All hard, irritant matter is objectionable and aggravates the condition. A diarrhea is generally set up by such matters as imperfectly masticated pieces of hard potatoes or carrot, of a green stalk or a piece of uncooked celery, or of a ripe apple; and is certainly aggravated by such mechanical irritants. Milk boiled with rice (best ground) has a distinct corrective action. Milk with biscuit powder is excellent. By such admixture too firm curdling is avoided. To put in a little cinnamon or cassia is to add a flavoring agent which at the same time is a good addition as acting favorably on loose bowels.

"In acute diarrhea the best food is milk with ground rice, or wheat flour (with cinnamon) in small quantities at once, neither too cold nor too warm. Milk puddings made with sago, arrowroot or tapioca are good; or powdered arrowroot (as arrowroot biscuit) in milk. If such food be persisted with, many a diarrhea will yield without calling in the aid of strictly medical agents. But frequently these last are indispensable. In more chronic conditions of looseness of the bowels, milk and farinaceous foods are still to be made the staple of the dietary.

"Then come the astringent wines, rich in tannin — as claret, Carlowitz and catawba. These may be drunk undiluted, or may be made into a nutrient food, by adding them to solutions of grape or cane sugar, or even to lactated foods. In many cases a small amount of alcohol is desirable."

It may be laid down as a rule that farinaceous matter is useful in diarrhea, the soft starch being not only non-irritant, but actually soothing to the morbid mucous membrane of the bowel.

No doubt in many cases of diarrhea, acute or chronic — just as in constipation — the resort to medical agents is often necessary. But, granting this, and admitting the numerous remedies in our possession for the relief of both conditions, still, their action can be potently aided or thwarted by a suitable dietetic regimen. Indeed, in the milder cases, regulation of the dietary is sufficient to keep the bowels in a satisfactory condition.

Hemorrhoids, or Piles.

Very closely allied to the diseases that we have just been considering is the disease of hemorrhoids, or piles, because the paroxysms of piles frequently attend a protracted case of either constipation or diarrhea. It is also a very common disease in the latter month of pregnancy, and is attended at times with the most acute suffering.

The disease consists in small tumors around the anus or fundament. Some of these tumors are internal and some external, and are known by the terms outward piles and inward, or blind piles. Frequently these tumors or swellings bleed, especially when the bowels are moved. In other cases there is no hemorrhage. The bleeding in some cases is alarmingly profuse on account of the rupture of one or more of the hemorrhoidal vessels. The

hemorrhage is generally followed by a period of some relief. Considerable itching at times accompanies piles, which may be due in a great measure to an additional disorder of the adjacent skin. There is usually a sense of heat and fullness of the rectum, a dull, heavy weight in the back and lower part of the abdomen, and an uneasiness in sitting or walking about. The patient will suffer severe agony while passing her stools ; and the tumors, whether internal or external, will become swollen and extremely tender so that they can scarcely be touched. They sometimes have quite a throbbing pulsation.

If the tumors break and discharge their contents, relief soon follows until a new crop forms ; when they continue tumid, hard and unbroken for some time there will be great suffering when the person has a discharge from the bowels.

Causes of Piles.

Piles may be occasioned by whatever interrups a free return of blood from the rectum, such as a collection of hard feces, which excites and irritates those parts. In women it often arises from an impregnated womb, or from relaxation and debility, and not infrequently from an inflammatory or irritable condition of the rectum resulting from some form of diarrhea. A diseased state of the digestive organs, with torpidity of the liver, or straining in lifting heavy burdens will often bring on an attack of this troublesome disorder. Excessive indulgence in rich and highly-seasoned food is a fruitful cause, from its

tendency to derange the digestive organs. For the same reason the excessive use of ardent spirits will bring on an attack

Treatment.

The prophylactic treatment, as physicians call it, is the best method of managing this troublesome and painful disease. That is, as far as it is possible, live temperately, so as to avoid all those causes that produce the disease. When a person has once been affected with it, another attack will be much more easily produced. The vessels having once been distended and their caliber enlarged, they yield more readily to the excessive pressure of the blood.

The first and one of the most important remedies in this disease is a proper course of diet. Wines or ardent spirits and rich and highly-seasoned food are positively interdicted. Costiveness or diarrhea, if they be present, must be corrected, and one or two soft stools daily be substituted. The food should consist of such articles as will not only be digestible, but will be selected with due regard to the condition of the bowels.

If there be constipation, use such food as rye or corn-meal, bread or mush, eaten with molasses, coarse, unbolted wheaten bread, potatoes, ripe fruit, milk, and generally a nutritious vegetable diet, so as to regulate the bowels. If there be diarrhea, some stringent with some of the preparations of opium to allay the irritation and quiet the bowels will be required. However, medicines

that act moderately on the bowels are more frequently required.

A teaspoonful of cream-tartar mixed in molasses will answer a good purpose, or, what is still better, and, indeed, one of the best remedies, is a combination of sulphur-flour and cream-tartar — say one ounce of flour-sulphur; one and a half ounces of cream-tartar; molasses, four ounces; mix and take in teaspoonful doses four hours apart, until the bowels move, and then sufficiently often to prevent them from becoming costive. At times enemas of water, either warm or cold, as may appear most pleasant, to wash out the rectum and move the bowels, answer a good purpose.

When the tumors become very painful, and are considerably inflamed, a poultice made of either elm or lin bark and milk will give great relief. Ointment made by mixing together two parts of fresh butter and one of turpentine, and applied to the tumors, will frequently afford speedy relief.

Professor Fordyce Barker of New York says the general prejudice against aloes does not apply to the occurrence of piles in pregnant women. A frequent prescription with him is:

Aloes, pulverized, Socotrine, 20 grains.
Castile Soap, 20 grains.
Extract of Hyoscyamus, 20 grains.
Ipecac, pulverized, 5 grains.

Mix and make twenty pills; take one morning and evening.

When the tumors descend they should be replaced, and the following applied twice daily :

Compound Unguent of Galls, 1 ounce.
Watery extract of opium, 20 grains.
Liquor of Sulphate of Iron, 1 drachm.

Many persons think that aloes will produce piles, but the better part of the medical profession regard the drug as a certain curative, and give it in some form in all their treatment. Dr. Barker says that when the patient is troubled with constipation he combines aloes with quinine ; without constipation, aloes with the sulphate of iron. For bleeding piles he used :

Sulphate of iron, 20 grains.
Watery extract of aloes, 30 grains.
Extract dandelion, quantity sufficient.

Quantity to make a pill mass, and divide into sixty pills ; one taken morning and evening and increase to three a day if necessary.

Varicose or Enlarged Veins.

Some of the disorders of pregnancy are the direct result of the mechanical pressure of the gravid uterus. The most serious of these is a varicose state of the veins of the lower extremities or of the vulva. A varicose state of the veins of the legs is very common, especially in women who have borne children. It rarely troubles women in their first pregnancy. It is apt to continue after delivery. Occasionally the veins of the vulva and even of the vagina, are also enlarged and varicose, producing considerable swelling of the external genitals.

Rest in a recumbent position and the use of an abdominal belt, so as to take the pressure off the veins as much as possible, are all that can be done to relieve this troublesome complaint. If the veins be much swollen, an elastic stocking, or a carefully-applied bandage should be worn. Much benefit may be derived by keeping the bowels regular, and relieving the pressure from this source.

Dr. Lion, a French writer, claims much success in the treatment of varicose veins by swathing the legs in a flannel compress wet with a solution of chloride of iron in water, forty-five grains to the ounce, and the applying of a roller flannel bandage over it firmly for twenty-four hours. This is to be repeated daily for a week or two weeks.

Dr. Edward R. Mayer says that he has employed, "with brilliant results," lotions of witch hazel to varicose enlargements. His formula is: Concentrated tincture of hamamelis, one ounce; water, one pint. He believes that it exerts a specific effect on the venous system.

Venous injections have been used with advantage, and are operations which belong to the surgeon, and need not be mentioned here. The great danger from these enlarged veins is the liability to rupture and produce dangerous hemorrhage. Great care is to be observed by persons thus afflicted that by some mishap this accident do not occur.

Wakefulness, or Insomnia.

This is peculiarly a nervous affection, and one that is exceedingly prevalent among all classes of women, pregnant, parturient, young and old. There are a great many phases of this intractable affection. The principles that should prevail in the treatment of wakefulness may be arranged into two classes.

First, those which, by their tendency to soothe the nervous system or distract the attention, diminish the action of the heart and blood vessels, or correct irregularities in their function, and thus lessen the amount of blood in the brain. In slight cases these measures often prove effectual. Among these measures may be noticed music, monotonous sounds, gentle friction of the surface of the body, soft, undulatory movements, the repetition by the individual of a series of words, till the attention is diverted from the existing emotion that is engaging it, and many others of a similar character. The device of counting 500 backward is quite successful. In persistent wakefulness these measures, however, are inadequate.

Second, resort to such means, either mechanically or through a specific effect upon the circulatory organs, as diminish the amount of blood in the brain. The principal means that is embraced in this course of treatment is to improve the patient's general health. In regard to food, while it is an error to suppose, as is generally the case, that a moderately full meal, eaten shortly before

bedtime, is necessarily productive of wakefulness, while there is no doubt that this condition is induced by an excessive quantity of irritating or indigestible food, yet a hearty supper of plainly-cooked and nutritious food rather predisposes to sleep. This is due to the process of digestion requiring an increased amount of blood in the organs which perform it, and, consequently, the brain receives a less quantity. This sleep-producing effect is neutralized, however, when the food is immoderate in amount or irritative in quality. It then, either by the pressure upon the abdominal vessels or through a reflex action on the heart, augments rather than diminishes the quantity of blood circulating in the brain.

Attention should, therefore, be paid to the diet of an individual who does not sleep. As a rule, people are under-fed. This is especially true of women. The tone of the system is thus lowered, and local congestions of different parts of the body are produced. If the brain be one of these, wakefulness results. Most of the cases of sleeplessness in women are of the passive variety, and require not only nutritious food but stimulants. Whisky is generally to be preferred to brandy and many kinds of wine. Nothing can be better, as a good stimulant, and at the same time tonic, than Tarragona wine, drank at dinner, to the extent of a glass or two. Next to this must be ranked good lager beer.

There are cases in which coffee produces sleep. A number of cases are mentioned by authors in which passive wakefulness was speedily and entirely cured by a cup

of strong coffee, taken for three or four nights in succession at bedtime. In women of languid circulation and consequent tendency to internal congestion, it is particularly useful.

The employment of stimulants is only of service in the asthenic or passive form of wakefulness. In the sthenic or active form they would, of course, increase the difficulty.

Physical exercise in the open air, extended to the point of inducing a slight feeling of fatigue, is productive of good effects.

The warm bath calms nervous irritability and determines blood from the head. Putting the feet in hot water at a temperature of 100° F. will often induce sleep, particularly in children, when other means have failed.

Cold water (32° F.) applied directly to the scalp has a good influence in those cases in which the individual is strong, the heart beating with force and frequency and the mental excitement great. It is not admissible in the passive forms of wakefulness.

In wakefulness, due to severe and long-continued mental exertion, all means of cure will fail unless the brain be used in a rational way. Proper intervals of relaxation will be necessary, and some mental rest. Among the purely medicinal agents, bromide of potassium holds the first rank. It diminishes the amount of blood in the brain, and allays any excitement that may be present in the active form of wakefulness. The flushed face, the throbbing of the carotids and temple arteries, the suffusion of

the eyes, the feeling of fullness in the head, all disappear as if by magic under its use. The dose of bromide of potassium is from ten to forty grains, dissolved in a cup of water.

Hyoscyamus frequently proves to be a very valuable remedy.

Chloral hydrate is a prime remedy for sleeplessness in the exhaustion of the brain through severe mental application, over-excitement of feeling, or convalescence from acute febrile diseases. It should only be used as a temporary remedy, when it may be necessary that we should at once secure a fair amount of sleep. No individual should be allowed to take this valuable drug whenever she may feel disposed; it ought only to be used upon the advice of a physician. Opium and its alkaloids answer well with some persons, especially if pain be associated with wakefulness, but they must use with great caution. Morphia is the most active hypnotic of the opiates.

After-Pains.

In child-birth there are three distinct varieties of pains — those that expel the child; those that expel the after-birth; and those that expel coagula of blood that may remain after the expulsion of the after-birth, or that may accumulate in the process of involution.

After-pains begin after the expulsion of the after-birth. In some women the pains are slight, and with the first delivery there is rarely any pain. With others these pains are very severe, and dreaded even more than labor-pains.

There are irregular contractions of the uterus, resulting from its efforts to expel coagula which are formed in its interior. If, therefore, care be taken to secure complete and permanent contraction of the uterus after delivery, they rarely occur to any considerable degree. They are to a certain extent a necessary consequence of child-birth, and need not give rise to any anxiety. Indeed, they are rather salutary than the reverse, for, if there be any coagulum in the uterus, the sooner it be expelled the better.

The after-pains generally begin soon after delivery, and, in bad cases, continue for three or four days. They are generally induced or increased when the infant is applied to the breast. In some severe cases they appear to be of a neuralgic character, and do not depend upon the presence of coagula in the uterus. Such cases will be relieved by the administration of from eight to ten grains of quinine. The quinine should be dissolved in ten or fifteen drops of hydrobromic acid, to relieve the unpleasant head symptoms that such large doses are liable to produce. If the pains be moderate, they need not be interfered with, as they soon pass off. If, however, they seriously disturb the rest of the patient, give an opiate consisting of twenty to forty drops of laudanum, or five to ten grains of Dover's powder.

If the discharges called lochia be not over-abundant, a linseed-meal or corn-meal poultice, sprinkled with laudanum, or with the chloroform and belladonna liniment, may be applied to the bowels. Sometimes a few grains of

camphor, held in the mouth and dissolved slowly, give relief.

Lochia, or Vaginal Discharges.

The discharges from the genital passage after delivery are termed the lochia. At first the lochia are composed of pure blood with coagula of fibrine, but, after a few hours, the wounded surface of the uterus furnishes an abundant exudation of a serous alkaline fluid, which washes away in its descent the secretion from the cervix and vaginal mucus. For the first two or three days the lochia are of a red color, from the admixture of blood, while, upon the third, fourth, and sometimes upon the fifth day, the bloody elements diminish, and the discharges present a pale-red color. From the fifth to the seventh day the bloody element still further diminishes. The discharge continues thin, with an increase of other fluids. In the second week the discharge becomes of a grayish-white, or greenish-yellow color, and of a creamy consistence. After the fourth day there is more or less odor accompanying the discharge. Toward the end of the first week, and especially after leaving the bed, fresh blood often makes its appearance. The quantity of the lochia varies with the peculiarities of the individual. It is, as a rule, less with the first delivery than with after-deliveries and in persons who are flabby and menstruate abundantly.

Great cleanliness in regard to these discharges is important, not only for the comfort of the patient, but to prevent serious diseases resulting from absorption of the

poison resulting from decomposition. Give frequent baths, as is recommended in the article, "Care After Delivery." The napkins should be often changed and replaced with clean ones.

When the discharge is excessive, accompanied with a relaxed condition of the uterus, teaspoonful doses of the fluid extract of ergot, every two or three hours will arrest it.

When the discharge is suspended, use turpentine stupes, which are made by applying turpentine freely to the bowels, and over it large napkins or cloths of flannel wrung out of water as hot as can be borne. Drinking freely of a decoction of vervain, or wild hyssop as it is sometimes called, will aid materially in the re-establishment of the discharge. In severe cases, with a putrid odor, a solution of the permanganate of potassa, injected into the vagina, is made use of. The injection of the fluid is continued until it returns unaltered in color. In all cases where the discharge is excessive, the tincture of arnica is useful. The tincture is used in proportion of a teaspoonful to a cup of water. It acts as a mild astringent and disinfectant.

Phlegmasia Dolens, or Milk-Leg.

This disease consists in a swelling of one or both legs — usually but one. It may attack women a few days after child-birth. It may follow abortion, or severe inflammation of the uterine organs. It commences with a swelling in the groin, and extends into the thigh and

leg, down to the foot. It increases until, in a few days, the leg may be double its normal size. The leg is white, smooth, hot; the skin tight and very sensitive, giving great pain on being handled.

The common name of this disease is derived from the milky color of the liquid. The disease may begin to decline in ten days or two weeks, but sometimes it continues for weeks, or even months, causing suffering and general emaciation.

The first step in the treatment is to allay the irritation of the nervous system, which may be best done by a full dose of opium, if nothing be in the way of its administration. The second part of the treatment should consist in nutritious food, stimulants and tonics.

Only in cases where there is some very obvious reason for it should cathartics be employed. Nearly all cases will do better without them. After the first two or three days the disease becomes mostly local. The patient should be kept quiet, and the limbs should be elevated at an angle above the trunk by raising the lower end of the mattress. Where there is a morbid increase of sensibility upon the surface, and pain in the deep-seated nerves, much relief will be obtained by gently rubbing the surface with the following, or some similar liniment:

Compound soap liniment, 6 ounces.
Tincture of opium, ½ ounce.
Tincture of aconite root, ½ "
Extract of belladonna, ½ "
Mix.

The rubbing with this should be gentle and continued for fifteen to twenty minutes; rub always toward the trunk. This may be repeated every six hours, after which the leg should be enveloped in cotton-batting and covered with raw silk.

After the period of acute swelling is past the leg should be examined for bright-red spots, and if any circumscribed collection of pus be discovered, it should be evacuated at once. If not, a roller bandage should be applied, beginning at the toes and carrying it up the whole length of the limb. This should be worn so long as there is any swelling of the foot and leg. The patient should not be permitted to walk until all evidence of local disease has disappeared.

Internally, the chlorate of potassa, with diluted hydrochloric acid, quinine, ammonia and iron are the drugs most likely to prove servicable.

Puerperal Mania, or Insanity.

Under the head of puerperal mania or insanity, writers have indiscriminately classed all cases of mental diseases connected with pregnancy. The result is unfortunate, as a large number of cases are not insanity at all, but melancholia. Many cases have little or no connection with pregnancy, but come on late in the days of lactation, and are closely connected with anemia. The generic term puerperal insanity may be employed to cover all cases of mental disorders connected with gestation. Of this there may be three special divisions, namely: 1. The Insan-

ity of Pregnancy; 2. Puerperal Insanity, so-called because it comes on within a limited time after delivery; 3. The Insanity of Lactation. This division is natural, and will include all cases in any way connected with child-birth. Only a partial and imperfect examination of these three kinds of insanity will be attempted in our limited space.

Insanity of pregnancy is by far the least common of the three forms. The intense mental depression, which, in many women, accompanies pregnancy, and causes the patient to take a desponding view of her condition and to look forward to the result of her labor with the most gloomy apprehension, seems to be only another degree of mental derangement. A large majority of these cases of insanity during pregnancy are well-defined cases of melancholia. A large proportion of these cases are among women in their first pregnancy. This fact, no doubt, depends upon the greater dread experienced by women who are pregnant for the first time, especially if they be not very young. Hereditary predisposition plays an important part, as in all forms of puerperal insanity. It may not be very easy to ascertain the fact of hereditary taint, on account of a general disposition in friends to conceal it.

The period of pregnancy in which mental derangement develops itself varies. Most generally, perhaps, it is at the end of the third month or beginning of the fourth. It may, however, begin with conception, and even return with every pregnancy.

The suicidal tendency is generally very strongly developed. Should the mental disorder continue after delivery, the patient may very probably experience a strong desire to kill her child.

Kleptomania — that is, a disposition to pilfer and steal — is characteristic of this disease. This influence of pregnancy has been pleaded in criminal courts with a view to exonerate women from thefts for which they were being tried.

As to prognosis, the chances for recovery are thought to be on the whole generally good. But there is little hope of cure until after delivery or termination of pregnancy.

Puerperal Insanity (Proper).

Puerperal insanity has always attracted much attention from able obstetricians. It may be defined to be that form of insanity which comes on within a limited period after delivery, and which is probably intimately connected with that process. Although a large number of these cases assume the character of acute mania, that is by no means the only kind of insanity which is observed. A not inconsiderable number are well-marked examples of melancholia.

There are also some peculiarities as to the period at which these varieties of insanity show themselves, which, taken in connection with certain facts as to the cause of the disease, may eventually justify us in drawing a stronger line of demarcation between them than has been usual. Compared with melancholia, it appears that cases of acute

mania are apt to come on at a period much nearer delivery.

As to causes, hereditary predisposition is frequently met with, and a careful inquiry into the patient's history will generally show that other members of the family have suffered from mental derangement. In a large proportion of cases circumstances producing debility and exhaustion or mental depression have preceded the attack. Thus it is often found that patients attacked with it have had hemorrhage after delivery, or have suffered from some other conditions producing exhaustion, such as severe and complicated labor; or they may be weak from over-frequent pregnancies, or by lactation during the early months of pregnancy. Indeed anemia is always marked. A morbid state of the blood is supposed by some to play an important part in the inception of this disease, but many objections have been urged against this theory.

The probability of recovery is somewhat gloomy, yet of such nature as need not lead friends to despair. There can be no doubt that the symptoms are grave and demand the most careful treatment.

The duration of the disease varies considerably. Generally speaking, cases of mania do not last so long as melancholia, and recovery takes place within a period of three months or even earlier. If they do not recover in six months, the chances afterward become greatly lessened. When the patient gets well it often happens that her recollection of the events of her sickness are entirely lost. At other times, the delusions from which she suffered remain,

and the personal antipathies which she formed when insane remain and become permanently established.

Insanity of Lactation.

The insanity of lactation appears to be almost twice as common as that of pregnancy, but considerably less so than the true puerperal form. Its dependence on causes producing anemia and exhaustion is obvious and well marked. In a large measure of cases it occurs in women who have been debilitated by frequent pregnancies and by length of nursing. When occurring in women with their first child, it is generally in those who have suffered from severe hemorrhage or other cause of exhaustion, or whose constitution was such as should have contra-indicated any attempt at lactation.

This type is far more frequently melancholic than maniacal, and when the latter form occurs the attack is of much shorter duration than in true puerperal insanity. The danger to life is not great, especially if the cause producing the debility be recognized and removed.

The symptoms of these various forms of insanity are practically the same as in the non-pregnant state.

Generally, there is more or less premonitory indication of mental disturbance which may pass unperceived. The attack is often preceded by restlessness and loss of sleep. The latter is a very common and well-marked symptom. If the patient sleep, her rest is broken and disturbed by dreams. Causeless dislikes to those around her are often observed. The nurse, the husband, the doctor, or the

child, become the object of suspicion, and unless proper care be taken the child may be seriously injured. As the disease advances the patient becomes incoherent and rambling in her talk, and, in a fully-developed case she is incessantly pouring forth an unconnected jumble of sentences out of which no meaning can be made. Often some prevalent idea which is dwelling in the mind of the woman can be traced running through her ravings. It has been noticed that this is frequently of a sexual character, causing women of unblemished reputation to use obscene and disgusting language which it is difficult to understand that they could have even heard.

Religious delusions, as a fear of having committed the unpardonable sin, or fear of eternal damnation, are of frequent occurrence, but perhaps more often in cases that are tending to the melancholic type. The tendency to commit suicide is often very marked, and often is only prevented by vigilance. They will even attempt to swallow the bedclothes, or any article that they can get into their hands. Food is often persistently refused, and the utmost coaxing is necessary to induce the patient to take sufficient nourishment to prevent starvation.

When the insanity assumes the form of melancholia, it is more gradual. It may commence with depression of spirits without any adequate cause, associated with sleeplessness, disturbed digestion, headache and other indications of bodily derangement. Such symptoms show themselves in women who have been nursing for a long time, or in whom any other cause of exhaustion exists. These

indications should never pass unnoticed. Soon the signs of mental depression increase, and positive delusions show themselves. In all cases there is a marked disinclination for food. There is almost invariably a disposition to suicide ; and it should never be forgotten, in these cases, that this may develop itself in an instant. A moment's carelessness on the part of the attendants may lead to disastrous results.

Treatment.

Bearing in mind what has been said of the essential character of puerperal insanity, it is obvious that the course of treatment must be largely of hygienic character, directed to maintain the strength of the patient, and enabling her to pass through the disease without fatal exhaustion ; to calm the excitement and give rest to the disturbed brain. Rest, food and sleep are the essentials, and should be administered in a methodical manner. This will require great judgment and sagacity. Every endeavor should be made to induce the patient to take an abundance of nourishment to overcome the waste of tissue and support her strength until the disease exhausts itself. Much, therefore, will depend upon the ingenuity of the attendants in varying and changing the cuisine so as to tempt the taste, that the quantity of food taken by the patient may be made considerable.

Solid food is best suited to this class of patients. Nourishing liquids should be drunk. In some cases, however, after you have exhausted all the means within your

power, it may become a necessity, to prevent starvation, to resort to forcible means to supply the much-needed nutriment.

Various contrivances have been employed for this purpose, which depend upon the judgment and ingenuity of the attendants. One of the most simple, perhaps, is introducing a dessert-spoon forcibly between the teeth. The patient should be controlled by an adequate number of attendants. Slowly inject into the mouth suitable nourishment, by means of an india-rubber bottle to which is attached a nozzle, which may be procured at almost any drug-store. Care should be taken not to inject more than an ounce at a time, and to allow the patient to breathe between each act of swallowing.

An instrument called Paley's feeding-bottle answers admirably for forcibly administering nourishment. Beef tea or strong soup, mixed with some farinaceous substance, or some of the concentrated foods of modern invention may be used profitably.

For producing sleep, perhaps nothing is better than chloral hydrate alone or in combination with bromide of potassium. Baths will form a good auxiliary for procuring sleep. To attain the best effects from the use of baths, the patient should be immersed in water at a temperature of 90° to 92° for at least half an hour. If she be refractory, this may be difficult to accomplish. In such cases, resort may be had to the wet pack, which will answer the same purpose. Judicious nursing is of the greatest importance. The patient should be kept in

a cool, well-ventilated and somewhat darkened room. If possible, she should remain in bed, or, at least, endeavors should be made to restrain the excessive restless motion which has so much effect in producing exhaustion. It has been observed that the husband and near relatives have generally a prejudicial and exciting effect on the wife, and other attendants can manage her more satisfactorily. Much will depend upon the manner in which this part of the treatment is effected. Rough, unkind nurses who do not know how to act gently, but with firmness, will certainly aggravate and prolong the disease.

When convalescence is commencing, change of air and scene will often be found of great value. Removal to some quiet country place, where the patient can enjoy an abundance of air and exercise in the company of her nurse and without the excitement of seeing many people, is especially to be recommended.

Puerperal Convulsions.

By puerperal convulsions we understand a peculiar kind of epileptiform convulsion, which may occur in the latter months of pregnancy, or during or after parturition. It is one of the most grave and formidable diseases with which the obstetrician has to grapple. The attack is often so sudden and unexpected, so terrible in its nature and so full of danger to both mother and child, that it is to be dreaded more than any of the other diseases attending the child-bearing state.

The attack seldom occurs without being preceded by certain premonitory symptoms. It is true, however, that

these are frequently so slight as to escape attention, and the suspicion is not aroused until the patient is in convulsions. Still, a careful investigation will generally show that some symptoms did exist, which, if they had been observed, would have put the physician on his guard, and might have enabled him to intercept the attacks. Hence, a knowledge of these precursory symptoms is of real benefit. They are chiefly confined to the brain.

There will be severe headache, sometimes confined only to one side ; occasional attacks of dizziness ; spots before the eyes ; loss of sight, or impairment of the intellectual faculties. Such symptoms in a pregnant woman are of the gravest character, and should at once call for an investigation of her condition. Swelling of the face and upper extremities is another precursor of evil, and demands attention.

Whether there have been any of the above indications of the attack or not, so soon as the convulsions come on there is no longer any room for doubt as to the nature of the case. The attack is generally sudden, and is characterized by the same symptoms as mark a severe attack of epilepsy, or the convulsions of children. There is a turpid, purple condition of the face ; convulsive movements of the face and whole body ; foaming at the mouth ; repeated and sudden closure of the jaw, by which the tongue is frequently dreadfully bitten ; the respiration is at first irregular, and, being forced through the closed teeth and the foam of the mouth, has a peculiar hissing sound, which once heard can never be mistaken. The pulse is

quick, full and hard at the beginning, but afterwards becomes small and scarcely perceptible. There may be involuntary discharges from the bowels and kidneys.

This fit lasts for a time varying from five minutes to half an hour, and then gradually subsides. The pulse often becomes calm and the patient conscious. She may remain in a state of complete coma, with heavy breathing. The more profound the coma, the greater the danger. The calm is generally short in duration, being often followed by a recurrence of repeated paroxysms and intervals.

As already remarked, puerperal convulsions may come on either before, during or after labor. When they occur before labor, uterine contraction is very apt to come on at the same time with the fit, and the child is born dead. When they occur during labor, the latter runs nearly its natural course, the fits recurring with the pains. When convulsions occur after labor, they generally take place in from two to four hours after the child is born, and are attributable to some injury received by the brain and nervous system during the parturient effort.

Treatment.

Much has been said by distinguished physicians as to the remedial effect of blood-letting. Many physicians are disposed to award it the same place in the treatment of puerperal convulsions that the practice of medicine, has consigned it in other diseases, believing that, although the immediate effect of bleeding is to unload the brain

and relieve the nervous irritability, it will soon be followed by an equal amount of pressure of blood, and of a much inferior quality, the waste having been supplied by serum taken from all the tissues of the system. However well this may look in theory, it is nevertheless true that the timely extraction of a quantity of blood suited to the constitution of the patient will be followed by better results than any other course of treatment that may be adopted as a substitute. The bleeding, in the first place, exerts a direct sedative influence upon the cord, and thus tends to prevent convulsions. Second, bleeding prevents the injury which the nerve centers would sustain were they to continue congested. If any other treatment be substituted for this, in four out of five cases the patient will die. The quantity of blood to be taken is from twenty to forty fluid ounces. If the patient be too weak for general blood-letting, cups or leeches may be applied.

Purgatives are also important. Give a brisk cathartic, such as ten to twenty grains of calomel. Apply cold to the back of the head and neck after the purge. Should coma appear, blister the back of the neck. Anesthetics and anodynes act most happily after the purgative. Chloroform is the anesthetic for convulsions. Place a few drops on a napkin, and repeat when necessary. Bromide of potassium in full doses acts well in relieving the congestion. Follow the bromide with chloral hydrate. Do not induce premature labor. Arrest the convulsions and let gestation proceed. If convulsions come on during labor, hurry the dilatation of the uterus. Bleeding does this.

Inward Fevers. (Puerperal Peritonitis, Etc.)

Another malady has received various names, such as child-bed fever, puerperal fever, peritoneal fever, puerperal peritonitis, low fever of child-bed, and lastly puerperal septicemia. By some it has been considered as a fever dependent on local inflammation; by others, a blood disease. Each author who has written upon the subject has adopted a classification in accordance with his own views and experience. It would neither be possible nor edifying in a work of this kind to give a synopsis of all.

Ramsbotham says: "The student is liable to be deceived if he ground his idea of this malady solely on the observation of one or two writers, especially those who have witnessed epidemics as they have appeared in hospital practice, however graphic the representations may be, because scarcely any two of them have resembled each other, and because the symptoms in all cases are much modified by the temperature and other qualities of the atmosphere, the season of the year, the localities in which the disease appears, and several external circumstances, independently of the constitution of the patient herself."

There may be said to be four principal varieties of this disease. The first and most common variety is characterized by pain and tenderness in the abdomen, preceded by a chill and accompanied by a hot skin, rapid pulse, and sometimes profuse perspiration. In this form, the uterus and its appendages, or the peritoneum, receive the greatest force of the blow.

The second form assumes the character of a mild typhus accompanied by intestinal irritation. It is ushered in by rigors, followed by a hot fit, and succeeded by nausea and vomiting or diarrhea, with most offensive evacuations. The tongue, at first loaded and white, soon becomes preternaturally red, as in those affected by chronic dysentery. The skin is dry and hot and of a dusky yellow hue; the mind is unsettled, without being absolutely delirious; the debility is extreme and the limbs tremulous. In some cases these symptoms are followed by acute inflammation of some important organ, or of the joints, tissues of the womb and suppuration of its lymphatics or veins. There is usually suppression of the milk, and sometimes of the lochia.

In the third variety the main mischief seems to be expended on the nervous system. There is great delirium, agitation, and a sense of impending death. This is liable to be followed by fatal syncope and coma, and may supervene on either of the other forms.

The fourth and worst form of puerperal fever affords the most extensive evidence of the diffusion of a poison over the system through the blood, and presents the most perfect analogy with malignant scarlet fever. Shivering and abdominal pains are followed by rapid exhaustion, quick pulse, glassy eye and dusky skin. There are often pains in the chest, husky cough, laborious breathing, and other evidences of inflammation of the lungs, which after death may be found granulous. Abscesses of the joints and cellular tissues, phlebitis and gangrene of the intestines, are among the ravages of this most fatal malady.

There are a few general symptoms which may be added to those mentioned above as characterizing the different forms. The pulse is always accelerated, ranging from 115 to 140 or 160. In the inflammatory form it is full and hard; in the adynamic, weak and small; pain is not uniformly present, though, in most cases, generally there is tympanitis and constipation. The lochia are suppressed or voided with pain; there is often a vomiting of yellow or green bitter matter, and in the last stage a discharge resembling black vomit. The intellect is often undisturbed until the last, though the patient often takes a great aversion to her infant.

Numerous conditions have been laid down as productive of this disease. Among the predisposing are atmospheric changes, depressing passions, unhealthy residues, dissipation, bad diet, etc. Among the specific causes are epidemic influences, difficult labor, suppression of the lochia and lacteal secretions, and contagion.

There are many who look upon this as a blood disease; who believe that puerperal fever originates in a vitiation of the fluids, that the causes which are capable of vitiating the fluids are particularly rife at child-birth, and that the various forms of puerperal fever depend upon this one cause, and are derived from it. Others, on the contrary, believe that the primary impression is made upon the nervous system.

The course of treatment to be adopted will depend upon what views are held in regard to the cause of the disease. The practice of extraction of blood has been to

a very great extent abandoned. James G. Glover, of London, sums up the treatment in an article in the *Lancet*: First, a dose of quinine and iron every three hours, in the following formula:

Sulphate of quinine, 2 grains.
Tincture of iron, 10 drops.
Spirits of chloroform, 10 drops.
Simple syrup, ½ teaspoon.
Water, 1 ounce.
Mix for one dose.

Secondly, a dose of opium every three, four, six or eight hours, according to the pain, without ipicac, which may set up a sickness, and without calomel, which may set up unnecessary irritation of the bowels. The dose of opium, say half a grain, is best given in the form of a pill.

Thirdly, a large linseed or bran poultice over the stomach, repeated every three or four hours. Sprinkling a little laudanum over it adds to its soothing effect.

Fourthly, and specially, vaginal injection at least twice daily of warm water with a little Condy's fluid in it.

The diet should consist of good beef tea or chicken broth, with generally a small regulated allowance of brandy, a dessert-spoonful every three or four hours. Sometimes the brandy is best given with arrowroot.

In cases where there is an excessive discharge, accompanied by a relaxed condition of the uterus, give one-drachm doses of liquid extract of ergot, repeated every three or four hours, and give internally:

Sulphate of quinine, 30 grains.
Hydrobromic acid, 6 drachms.
Water, 2 ounces.
Mix.

A teaspoonful in water three times daily.

By this means large doses of quinine may be taken without causing headache.

When the discharge is suspended, the treatment consists of turpentine stupes applied over the lower part of the abdomen, with the addition of warm, moist cloths, or of sponges pressed out of warm water and applied to the external parts. In special cases that require an antiseptic wash, use a solution of thymol, one part to 500 parts of water.

Leucorrhea, or "Whites."

Perhaps no disease common to women is of more frequent occurrence than leucorrhea, and although it cannot be said to directly put the patient's life in jeopardy, yet it contributes greatly to general exhaustion and discomfort. It is manifested by a flow of mucus, more or less copious, from the genital organs, according to the degree of the constitutional disturbance and extent of the inflammation.

At times it is almost white, from which it takes its name; again, of a bluish, greenish, or yellowish color; at times it is unodorous, at others very fetid. The tissues involved in the irritation and inflammation may be in the Fallopian tubes, the mucous membrane of the internal surface of the womb, or its neck, or the walls of the vagina.

This disease may be classified according to the character of the constitutional disturbance creating it. Such divisions would only tend to mistify. There is no doubt in the mind of the intelligent observer that leucorrhea, in many instances, is the natural result of constitutional predisposition. Hence, it is found most commonly in lymphatic subjects who are feeble and ill-developed.

These persons are easily recognized by want of muscular vigor, by soft flesh, pallid faces, weak digestion and morbid tendencies. The writer has known children of such constitutional weaknesses to develop leucorrhea.

This disturbance, like the other diseases of the uterine organs which have been described, is affected in no trifling manner by what the patient eats, drinks and wherewithal she clothes herself. A stimulatory drink used freely in France is said by a French author to be a very common cause of leucorrhea among French women; he has frequently demonstrated it by stopping the patient's use of the stimulant, whereupon the leucorrhea subsided.

Local irritation, resulting from the application of instruments, wearing of pessaries, or solitary habits of a vicious character, usually tend to produce this disease.

Another very fruitful cause may be found in the results of exposure to extreme temperatures of either heat or cold, either insufficient or excessive exercise, exposure in damp clothing, wet feet, irritating medicated injections; in short, any interference with the normal functions of the uterine organs resulting in their irritation or inflammation, will develop a case of leucorrhea.

The character of the discharge will frequently bea valuable index to the organ suffering from the inflammation, and thus direct to intelligent treatment. For example, a discharge from the vagina, resulting from mere excitement in the vaginal walls, is thin, glairy, and not very tenacious, without color, and with but little consistence. When a moderate excitement of the internal mucous membrane of the neck of the uterus produces a discharge of mucus sufficient to appear at the orifice of the vagina, the discharge is white, not unlike milk, and, when examined closely, will be found to consist of minute particles, swimming in clear fluid. If the discharge flow from the mouth or internal surface of the uterus, it is thick, and resembles very closely the white of an egg.

The reader will understand, from what has been said, that much may be learned, by carefully examining the color and character of the discharge, as to the special part involved in the disease, that the remedies may be appropriately directed. But leucorrhea may also result from displacements or flexions of the uterus. These abnormal positions of the uterus and their effects will be explained in their appropriate places.

Although we find patients suffering from leucorrhea at all ages, yet it affects women more particularly during their menstrual life. It is an obstinate and intractable disease, difficult to cure, often exhausting the patience even of the most skillful physicians.

This may result in many instances from an endeavor to treat it as an independent disease, or from an inability

to properly apply the remedies adapted to its cure, because the physician may not be able to get such control of the patient (on account of her position in society) as to enable him to bring to bear treatment meeting the indications in the case.

No intelligent person would attempt, with an expectoration from the bronchial tubes, to base his treatment upon the theory that when the expectoration ceases the disease will be cured. All mucous membranes in a healthy condition are kept moist with a bland fluid, and it is only when the exudation becomes excessive, on account of some irritating cause, that we have an evidence of an existing disease.

Since the uterus and vagina are covered with mucous membranes, which are subject to excessive exudation, there is nothing extraordinary or strange in the disease called leucorrhea, nor in the variety of the discharge, as every person has observed similar variations in the discharge from the mucous membrane lining the nasal organs. In view of the debilitating effect of an excessive exudation from any mucous surface, it is not surprising to find it intensified in the uterine organs, because in them we have the additional debility induced by the monthly excitement and congestion of the ovaries and uterus and the menstrual discharge.

Leucorrhea may be either acute or chronic. The acute variety may either run its course and get entirely well, or it may result in the chronic form. There are marked local disturbances accompanying the acute. There is a

sensation of itching of the rectum, sometimes very severe, and the local irritation spreads to the surrounding parts, as the bladder, inducing a constant desire to void urine. The characteristic discharge, accompanied by a sensation of burning, soon makes its appearance. These symptoms grow more aggravated for a few days. The discharge increases in quantity and changes in color. It was at first white, but assumes either a yellowish or greenish hue. The inclination to urinate frequently continues, and the urine is disposed to scald the parts; thus the inflammation is extended, and the pain becomes more intensified. In the course of a week or more, the inflammatory symptoms subside. This is succeeded by an increase in the discharge; the consistency is thicker and the color darker. In the course of a few days these symptoms subside and the patient rapidly improves. She may be entirely well inside a month if the case have been judiciously managed, but, as indicated above, if not properly treated, the trouble may assume a chronic form, and its duration be uncertain.

It sometimes happens, in the chronic form, that the discharge intermits; at other times it is continuous. The itching and swelling of the parts occasionally is prolonged in the chronic form. Especially is this true in reference to itching, which not infrequently troubles the patient for a long period. This variety of leucorrhea makes a decided impression upon the physical appearance of the patient. Intense suffering from irritation rapidly exhausts the vital forces of the system, leaving it feeble

and weak. The stomach sympathizes, and loses either its desire for food or rejects it on the slightest provocation. This impaired condition of the digestive organs added to the already reduced condition of the system, is manifested by general lassitude. The face is puffed and pale, bearing evidence of an impoverished condition of the blood. Hence, dizziness, fainting, and hysteria supervene.

There is a transient form of leucorrhea which makes its appearance before or after menstruation. This variety is caused from the habit of life, and usually does not subject the patient to special trouble, but soon yields whenever an intelligent course of hygiene is adopted.

Leucorrhea sometimes appears to be substituted for the menses, and patients will tell you that they " change " all right ; that there is no color ; that it resembles " whites."

Treatment.

The first and most important feature to be observed by every patient suffering from this troublesome affection is cleanliness. This will be best accomplished by baths and injections. Water should be freely introduced into the vagina by the aid of a rubber syringe. The temperature of the water thrown into the vagina should be varied to meet the indications of the particular phase of the disease that is present.

If there be no well-marked evidence of extensive inflammation of the uterus or adjacent organs, but simple irritation of the vaginal walls, cold water, if not unpleasant, freely applied, will cleanse the vagina and stimulate the

diseased membrane to a more healthy action. This may be followed by some mild astringent, as a decoction of oak bark, or a tea made of sage, or Young Hyson, to which may be added a teaspoonful of salt to each pint employed. Much good will be accomplished by the free use of the cold water.

If, however, there be the distressing characteristics of extensive inflammation, either of the vagina or uterus, the water used for the injection should be of high temperature — as hot as can, with safety from scalding, be introduced and freely applied. As much as a gallon of water at a single application can be used. It will do more to allay the inflamed condition, which is the exciting cause of the leucorrhea, than any other remedy which is at the command of common people or perhaps physicians.

The baths, or injections of water, may very advantageously be followed by a weak solution of sugar of lead, in the proportion of two drachms (one-fourth ounce) to a pint of soft water. This makes a very cooling and astringent injection in this disease (especially at the commencement of the discharge). It should be used from two to four times daily, the bowels being kept open by a saline purgative — small doses of Epsom salts. With patients of plethoric temperament, there should be careful attention to diet, general baths, etc. Sulphate of zinc may be used instead of the sugar of lead, but it requires a little larger quantity of the zinc in proportion to the water

Many patients experience very beneficial results from the following compound when it agrees with the stomach.

Its unpleasant taste is offensive to some delicate stomachs, and is not well borne: Balsam of copaiba, one ounce; spirits of nitre, one ounce; oil of cubebs, one-quarter ounce; turpentine, one drachm; alcohol, one-half ounce; mix together and shake well; then add two ounces of simple syrup; take a teaspoonful three times daily, shaking well before taking. Patients who cannot take the copaiba in this manner, on account of its unpleasant taste, can procure it in capsules, a convenient method of administering the drug.

The above remedy may be materially assisted by injections made of carbolic acid, one teaspoonful; sugar of lead, one-quarter ounce; salt, one-quarter ounce; glycerine, one ounce. Dissolve the carbolic acid in the glycerine; add half pint of soft water, and then add the lead and salt. After shaking well, add a heaping teaspoonful of brown sugar, and it is ready for use. To half pint of water add two teaspoonfuls of the mixture for an injection, to be used after the free use of the pure water, either cold or hot, once or twice daily.

In the class of cases where the leucorrhea takes the place of the menses, a different line of treatment will have to be instituted. In such cases Nature is evidently making a vigorous effort to perform her functions, but does not succeed in giving the discharge its specific color and quality. The patient, however, has all the usual symptoms attending the menstrual discharge, such as a sense of weight at the lower part of the abdomen, headache, weariness, lassitude and backache. This condition is most frequently met in

young girls at the beginning of their menstrual life, in which cases it may soon be substituted by the natural menstrual fluid, but it has been known many times among women who had borne children.

This form of leucorrhea is substantially suppression of the menses, and is due mainly to general constitutional derangement. The treatment should consist in means adapted to the improvement of the general health. Indeed, this is, to a greater or less extent, true of all the phases of leucorrhea. There is a general tendency to constitutional weakness; consequently, anything calculated to improve the weakened condition of the system should occupy a pre-eminent place in the treatment. The patient should be removed from all influences that tend to debilitate or unbalance the equilibrium of the system.

The influence of severe mental strain in school duties or other occupations, or social surroundings that unduly excite the nervous system or exhaust the vital forces of the body, should be substituted with mental relaxation and pleasant employment in a pure, bracing atmosphere.

The food of such patients should be very nutritious but digestible — pure, rich milk, with good, well-baked brown bread, an abundant supply of fresh butter, and a reasonable quantity of meats. If the digestion be feeble, the meats should be well cooked in the manner prescribed in the article "Food." The quantity of food taken at any one time should only be equal to the digestive power of the stomach. Better to eat more frequently than overload the stomach at any one time.

If a stimulant be required, good, pure, grape wine or beer may be advantageously employed in limited quantities. Due attention should be paid to the bowels. An occasional laxative that will pretty thoroughly unload them will be highly beneficial, by permitting the rapid and complete absorption of whatever nutritive material may be presented to the absorbing organs. All exposure to extreme temperatures of either heat or cold should be carefully avoided, and the skin should be kept clean and moist, perfectly protected by clothing suitable to the temperature of the atmosphere. The underwear should be frequently changed.

Milk Fever and Sore Breasts.

From the second to the fourth day of the child-bed period the breasts of the mother begin to swell and become full, tense and nobular, or lumpy, and may be sensitive to the touch. The glands under the arm enlarge and radiating pains are often felt in the breast, shoulder and arm.

The intensity of the mammary congestion differs in different individuals. It is more pronounced in women who postpone nursing their children until the secretion of milk is firmly established. In some cases it may be absent altogether.

Since the general introduction of the thermometer into practice and the better understanding of the causes of fever in the puerperal state, the existence of a distinct milk fever, referable to functional disturbances in the breast

during the period in question, has been found to be an entirely exceptional occurrence. The temperature tables that have been carefully kept for many years prove that, under normal conditions, on the third day, the temperatures do not rise above a hundred and a half degrees. With this slight increase of fever there is often considerable general disturbance, indicated by slight chilly sensations, headache, loss of appetite and quickened pulse, which, however, disappears in the course of twenty-four hours, with profuse perspiration and an abundance of milk. There is, occasionally, a higher temperature associated with extreme tenderness and reddening of the breasts, which may subside when they are partially unloaded.

There is, however, in some cases, either from the result of cold or the continued distension of the milk-vessels, an increased amount of inflammation, which may be observed as the breast becomes more swollen and hard, with an increased amount of fever, and great tenderness. This will be accompanied by chilly sensations, the breast at the same time becoming more turgid or hard and painful, indicating the formation of an abscess.

Women are most usually subject to this distressing complaint during the first weeks of nursing. It may develop at any subsequent period if the patient take cold, or through the engorgement of the milk vessels.

Treatment.

In all cases where the symptoms are present there is reason to suspect mammary abscess, and the most vigilant means are to be used to abort such distressing and painful

disease. To accomplish this end the patient should take an active purgative, drink warm teas, such as will induce free perspiration, and secure the application of hot bricks, or jugs filled with hot water. A warm flaxseed or corn-meal poultice should be used; if the breasts be very painful they may be soothed by the addition of laudanum sprinkled over the poultice. After the action of the cathartic the patient should take from three to eight drops of the fluid extract of poke-root every three or four hours. Nothing will be found better to abort mammary abscess than the free administration of this remedy.

A poultice made out of roasted poke-root applied to the gland will be found a valuable auxillary in aborting this species of inflammation. If the swelling and inflammation grow worse and there be evidence that the breast is likely to gather, a poultice of pulverized slippery elm bark moistened with warm water should be applied. If there be evidence of pus a free incision should be made, care being taken, however, not to wound the large milk vessels. After the opening of the abscess, there may be applied any soothing poultice. Keep the gland unloaded of its contents.

Diseases of the Vulva.

Inflammation of the vulva is a disorder that frequently affects women. There may be severe inflammation of the mucous membrane accompanied by minute points of ulceration. The ulcers on the vulva are small, slightly pitted, and almost always covered with pus. The whole

vulva may be intensely red and bathed in pus and mucus. The inflammation sometimes extends into the vagina and causes a copious flow of pus and mucus from that cavity.

Not infrequently the labia are very much swollen, and occasionally the surrounding tissues are involved in the inflammation. This inflammation, especially in its earliest stages, is sometimes attended with considerable fever. By the inexperienced observer it may be mistaken for gonorrhea from the swollen labia, burning pain, copious, purulent discharges, and pain and difficulty in voiding urine.

This mistaken diagnosis may be strengthened from its occasionally sudden development. It occurs in children from three to twelve years of age, and probably results from want of cleanliness and local irritation. If allowed to pursue its course without any treatment other than cleanliness, it may subside spontaneously in two or three weeks; if not it is disposed to run into a chronic inflammation. This last form often affects young women, and constitutes what may be known as inflammation of the vagina, giving rise to leuchorrea, and finally to the inflammatory diseases of the uterine organs of women. It is sometimes the result of a debilitated and scrofulous constitution and may be complicated with indigestion and constipation.

Treatment.

The treatment may, in general, be local. In cases of debility and scrofulous constitution, restorative measures may be used to improve the general health and vigor of

the patient. In the beginning where inflammation is high, the fever should be combated by appropriate remedies. We may administer a mercurial cathartic and hasten its action by a dose of Epsom salts, producing a free evacuation of the bowels. This should be followed by the administration of the nitrate of potash in doses internally, every three or four hours, suited to the age of the patient. The part should be frequently bathed, or treated with a decoction of poppyheads, or hops, to which may be added watery extract of opium. In the course of four or five days, when the acute symptoms have subsided, we may administer quinine, dissolved in aromatic sulphuric acid, in doses suited to the age of the patient, and apply a decoction of white-oak bark as a local astringent.

It may be necessary, in the progress of the disease, to use some more potent astringent, such as sulphate of copper, or even nitrate of silver. Should the inflammation extend into the vagina, the astringent may be injected into that cavity by means of a rubber syringe.

If the patient should be young, great care should be observed in introducing the pipe, that the internal organs do not suffer injury. When this disease is developed in children, it is important to know that it is entirely subdued, lest the inflammation become chronic and continue until puberty, extending into the body of the developing uterus, entailing a very distressing train of suffering upon the patient, that might have been avoided by a complete cure of the inflammation of the vagina.

Follicular Inflammation of the Vulva.

Inflammation of the vulva not only affects the mucous membrane, but may extend into the follicles and glands of the vulva. In this form of the disease, minute pimples appear on the mucous surface of the labia majoræ, the labia minoræ, the clitoris, and other parts of the orifice of the vagina. These pimples increase in size, and become red, while the surrounding mucous membrane is very much inflamed. In many instances, a number of these elevations become pustules with hard base, red and very tender. More frequently, however, there is only a flow of mucus, with slight traces of pus. The acute form will generally run its course and subside in a few weeks. It often happens, however, that the disease becomes chronic and exceedingly obstinate and difficult to cure.

The causes are want of cleanliness, inflammation of the vagina, pregnancy, and malignant affection of the vagina and uterus.

Treatment.

Rest in bed, alterative and saline cathartics, cleanliness, emolient poultices followed by astringent applications. If the patient be debilitated, restorative measures will be necessary. Bitter tonics and quinine will be especially useful, as this disease most generally affects persons of a debilitated constitution. When the secretions are offensive, carbolic acid with glycerine should be freely applied two or three times a day. When the dis-

ease becomes chronic, there will be necessity of a use of stimulants sufficiently strong to mollify the inflammation. It may be necessary to have recourse to nitrate of silver in the solid form once in six to ten days. This has a powerful effect in controlling the disease. Carbolic acid and glycerine, in which may be dissolved some tannic acid, may be used between the times of applying the caustic, or nitrate of silver.

In connection with this it will be necessary to administer alteratives, as iodide of potassium, and sarsaparilla. In others, who are fleshy and full of blood, mercury will be found a very reliable remedy.

Pruritis of the Genitals.

This is a very annoying and very often obstinate affection of the genital organs. It is characterized by extreme itching of the vulva. The itching returns in paroxysms; the patient will sometimes be free from it except when standing by a warm fire, or becoming heated by exercise, passion, etc. Or she may be affected only at the menstrual period.

At other times, the itching returns without any apparent reason. The sensation is sometimes of a burning heat with an irresistible desire to scratch or rub the parts, which desire is often embarrassing, from the delicate location of the disease.

At other times the sensation is such as may be produced by the crawling of pediculi, and the patient feels as if thousands of these insects are moving upon her

person, and will only be convinced of the contrary by an examination.

In the first variety it is almost always attended with inflammation of the mucous membrane of the vulva. The inflammation may be simple, papular, or vesicular. In this variety of pruritis, the itching is generally, if not wholly, confined to the surface of the labia. Pruritis may be considered but a symptom of several diseased conditions of the genital organs, and may be caused by the state of the intestinal canal, particularly the rectum or some other remote condition. A careful examination of the cases as they arise will most frequently result in the discovery of the cause. It is often a very obstinate affection, lasting weeks, months and even years in bad cases. More frequently it yields to a judicious course of treatment.

Treatment.

The first thing is to remove the cause, if practicable. In order to do this the abdominal organs will require attention. The sluggish secretion and bowels must be corrected by alteratives and laxatives. This may be best accomplished by four or five grains of blue pill in the evening, to be followed in the morning by a small dose of salts, sufficient to produce two stools. This may be repeated every three or four days until the secretions be established and the bowels emptied. If the stomach be weak and digestion imperfect, the bitter tonics as gentian, quassia, quinine or acids, as the state of the case may require, will be demanded. And if the patient should

be pale and bloodless, iron may be given. Sometimes, however, with patients who are fleshy and full of blood, alteratives with spare diet will be more appropriate.

With the above treatment we will generally have to resort to some local remedies. Among the most important of these is cleanliness. The parts externally and internally should be subjected to thorough and frequent ablutions. To the accomplishment of this end, recourse must be had to some toilet soap for the ablutions. Where there is no apparent eruption, much advantage will be obtained by washing in a solution of the tincture of cloride of iron, two drachms in a quart of water, three or four times daily. This will be found especially beneficial in cases accompanied with leucorrhea. When there is vesicular eruption, sprinkle the parts with powdered borax and expose as much as possible to the open air. Infusion of tobacco applied two or three times a day is recommended by Prof. Simpson. When the mucous membrane is much inflamed, a solution of hydrocyanic acid, ten drops to the ounce of water, often affords great relief.

Pure glycerine will be found an excellent palliative. In applying this to the vagina, however, a plug of cotton saturated with it, passed in through a speculum, and allowed to remain for ten or twelve hours, is the better method. A small cord should be applied to the plug of cotton before introducing it, that it may be the more easily removed. This should be repeated about once a day. The same application may be made between the

labia. This treatment produces a copious serous discharge which tends to remove the congestion of the mucous membrane.

In protracted cases that have resisted the ordinary routine of treatment, it has been found that the application of the tincture of the cloride of iron in full strength, applied by a brush or some other suitable instrument once a day, to all the mucous membranes will answer a good purpose.

When this treatment fails, as will sometimes be the case, a similar application may be made with the solution of the nitrate of silver, from thirty to fifty grains to the ounce of water. This application need not be made more than once every two or three days. Relief has been obtained by applying a five to ten per cent. solution of carbolic acid with equal parts of glycerine and water.

The obstinacy of this disease will require great patience on the part of the patient, and not infrequently a long routine of treatment.

Eczema.

Eczema is both an acute and chronic form of disease. The acute forms occur usually on the face, genitals, hands, feet; sometimes, however, on the entire cutaneous surface. It is not especially a female disease, but, on account of its affecting so many on the genital organs, it is deemed prudent to devote a short space to a description of the disease and some appropriate treatment.

The acute form is preceded by chilliness along the back

or other febrile symptoms, while the cuticle of the affected part is reddened, swollen, and covered with vesicles ; these burst and discharge a viscid fluid, which dries into crusts, on the removal of which the skin appears at first moist ; it afterwards becomes dry, reddened, and covered with scales.

When the genitals are affected with acute eczema, they redden and swell ; the discharge is situated in the deeper rather than in the superficial layers of the skin. In this variety there may not appear many vesicles or papules. The general forms of acute eczema present varieties according to the seat of the disease. The vesicular and papular formations predominate. Chronic forms of eczema occur more frequently than the acute, and nearly every part of the surface may be thus affected. As before mentioned, eczema occurs in the form of papules, but most frequently in that of vesicles.

The eczema of the female genitals involves chiefly the labia majoræ from which it extends either forward and upward, or downward along the inner surface of the thigh, backward toward the perineum and anus, or inward toward the labia minoræ, and even to the vagina and mucous membrane ; on these situations it is accompanied with severe itching.

The eczema affecting the nipples causes them to swell, redden, and lose their epidermis. The affection, which chiefly occurs during the puerperal state and with women with their first child, is extremely obstinate and painful ; for, whenever the child takes the breast, the inflamed

nipple is subject to fresh irritation, and the swelling thus increases. Cases not infrequently occur in which the organ suppurates, necessitating the weaning of the child; otherwise protracted disease of the mammary gland might follow.

Treatment.

The different views which have been held regarding the cause of eczema have variously influenced the methods of treatment. The local treatment of children was long in disrepute, many authors contending that the drying up of the local affection resulted in serious obstruction of the deposits from the system, hence, inducing internal diseases, such as hydrocephalus, meningitis, bronchitis, etc. In opposition to this theory the facts deduced from experience were cited. We have had ample opportunity of observing the disease in children, and though we have employed only local treatment, we have never experienced any evil results. We have, however, observed that children whose health had been impaired by the discharges and by sleepless nights, regained strength and weight rapidly on the cure of the eczema. We do not, therefore, fear any evil results from the external remedies, and never employ internal remedies except in cases where the disease is evidently dependent upon the internal organs.

In the treatment of eczema we do not prescribe antimony, venesection, or purgatives. In pale, delicate subjects, however, we administer the preparations of iron,

and in those who are ill-nourished, meat diet. In cases of a certain type in which the outbreak is provided by fever, quinine. In some very protracted and obstinate cases, however, we give arsenic or carbolic acid, but in others we have found that the bi-cloride of mercury, and the compound tincture of cinchona — say six ounces of the compound tincture to five grains of bi-cloride of mercury — administered in drachm doses three times a day for a length of time, were followed with very beneficial results.

If there be excoriations or ulcers of the mouth of the womb, or if leucorrhea exist, these conditions must be treated by appropriate remedies. When relapses occur in consequence of the confined mode of life of the patient, they should be met by free exercise in the open air. When eczema is dependent upon disorders of the digestive organs, resulting in anemia and derangement of the sexual organs, the general health must be restored.

The local treatment is much more important, however, and, on account of the obstinacy of the disease, many theories have been advanced and remedies suggested. The most rational theory to us has been suggested by Hebra. It comprises the following remedial agents: Water, at different temperatures, used as a solvent for various medicinal agents. In eczema warm water is seldom employed except for baths, as in soda or corrosive sublimate baths; cold water is employed in the form of bandages, douches, etc. In acute eczema water is employed in bandages; care should be taken always to use soft water, as hard water contains various salts, and frequently does more harm than good to the delicate skin.

If only hard water can be obtained, it may be used for bathing, after purification by boiling and letting it stand to cool. Shower baths may be employed over the affected part; but the water should not be allowed to fall more than two feet, lest it cause irritation and inflammation of the skin, as well as boils. As a solvent, water is used for various astringents, as alum, acetate of zinc, sulphate of copper, caustic potash, corrosive sublimate, the strength being modified as desired; the usual strength employed is one-third of a grain to the ounce of water. In acute eczema these solutions are used in conjunction with cold bandages, a piece of linen being first soaked in the solution, applied to the part and covered with a cold bandage.

The cold water cure is only suitable in acute, general eczema. When the circumstances do not admit of the patient's residence in a hydropathic establishment, the following method may be adopted in private: On the mattress of the bed a large piece of gum cloth is laid, on which two folded sheets are placed, transversely; above this one or two blankets; lastly, two wet sheets. The douche apparatus is placed close to the bed, and after the water has been applied to the patient she is rolled up in wet sheets, and covered with blankets tightly bound around her. A covering is then thrown over all.

The patient soon experiences the pleasant feeling of warmth, slowly perspires, the itching and burning at the same time greatly subsiding. This process should be repeated at least four times during twenty-four hours.

The room should be moderately warm, and after using the douche the patient should move about a little before lying down.

In the treatment of eczema, oleaginous substances are employed with the view of removing the crusts and of excluding the air from the affected part, so as to prevent the drying of the discharge. By this means a cure is affected in cases where the skin is not greatly infiltrated. For this purpose most any oily substance may be employed, such as cold cream, lard, etc. In applying these substances, it is necessary to keep as large quantities as possible in contact with the skin.

In combination with these oily substances, various astringents are employed, as oxide of zinc, acetate of lead, carbonate of lead. The mild astringents, however, are only suited for light cases. The oxide of zinc may be combined with lard, eighty grains of the former to an ounce of the latter. One of the best remedies for such cases consists of equal parts of linseed oil and diachylon-plaster; or linseed oil one pint; litharge, three ounces; oil of lavender two drachms. This ointment is spread over a piece of linen the thickness of a back of a knife and changed every twenty-four hours. It is adapted to every stage of eczema, and is almost indispensable to the treatment of cutaneous diseases in general.

Eczema of the Labia.

Hip-baths night and morning, and the free use of a borax-glycerine lotion (glycerine with borax, two fluid ounces) which may be made by rubbing one pound of

powdered borax in four fluid ounces of glycerine in a mortar until the borax is dissolved ; add to the glycerine of borax (two fluid ounces) four ounces of water. This will prove successful in most cases. Powdering with the oxide of zinc and starch is also found very useful.

When the eczema is limited to the labia, painting with the solution of the nitrate of silver is one of the best means of cure. Eczema of the breasts is often very obstinate. If the ordinary plans of treatment fail, a strong solution of caustic potash is to be applied four or five times daily, and the parts well rubbed with the wet hand after the application until a lather is formed. This is severe treatment, but quite efficacious. The strength of the solution is equal parts of caustic potash and soft water. The great pain produced by this application is lessened by the application of cold bandages, and will subside in the course of a quarter of an hour. In cases in which general eczema has proved most obstinate, lasting for years, and when the skin is much infiltrated, the application of this remedy, two or three times per week, is most successful. The vesicles, although not numerous, are still accompanied with severe itching, and are destroyed the moment the solution comes in contact with them, and the itching entirely ceases.

Inflammation of the Womb.

Inflammation of the womb is both acute and chronic, and may effect any part of the organs alone or the womb generally. The acute form is characterized by violent

burning pain in the region of the organ, with a sense of weight, and often darting pains, extending out toward the sides of the abdomen.

Sometimes even the whole abdomen becomes swollen and very sensitive to pressure. The vagina is hot and dry, the organs low in the pelvis, and the mouth, somewhat enlarged, is quite tender to the touch. The bowels are apt to become constipated, the urine be suppressed or retained, the tongue dry and furred, and the pulse frequent and excited. These symptoms may be accompanied with nausea and vomiting.

Treatment.

One of the first things to be done with inflammation of the womb is to evacuate the bowels by means of a hydragogue cathartic. A brisk and active purgative should be given composed of salts and senna, or jalap and cream of tartar. In some cases, if the inflammation be high, it is well to introduce the treatment by first administering five to ten grains of calomel, followed by the salts and senna mixture until the bowels are well unloaded. If the bowels be very much constipated, the action of the cathartic may be aided by injections of warm water, to which may be added a little soap, molasses or salt. Mustard drafts or hot fomentations of bitter herbs, as hops, should be applied to the lower portion of the bowels over the neck of the womb.

It is a good plan to first apply the mustard plaster and follow with hot fomentations. What is still better, how-

ever, and more efficient, is a turpentine stupe. Bathe the bowels with turpentine, over which apply a fold of muslin. Large compresses, flannel, or other suitable material should be pressed or wrung out of water as hot as can be borne, and laid over the turpentine application.

This application of hot cloths should be repeated until the skin is thoroughly reddened and the burning too intense to be endured by the patient. A liniment composed of equal parts of turpentine and oily matter, such as lard, should be applied freely over the bowels after the turpentine stupe has been removed.

No remedy for acute inflammation of the womb is more efficient than turpentine, both externally and internally. The bowels may be kept open with castor oil and spirits of turpentine. If there is general excitement and fever with pain, five to ten grains of Dover's or diaphoretic powder should be administered, sufficiently frequent to counteract pain and produce free perspiration.

If there be retention of the urine, marshmallow tea, one gill, and a teaspoonful of the spirits of nitre may be given every three or four hours until the difficulty is overcome. The food should be light and nutritious, composed mainly of farinaceous substances. The patient should be kept at rest. If there be great restlessness and indisposition to sleep, the administration of twenty to thirty grains of the bromide of potassium will generally be succeeded by a period of comfortable repose.

Chronic Inflammation.

The chronic form is more common, and varies from the acute in the intensity of the symptoms. It is characterized by heavy pain in the pelvis, increased by walking or moving. Discharges from the bowels and coition are accompanied with pain. There is more or less pain during the period of menstruation, which begins several days prematurely, accompanied with pain in the breast. The areolæ of the nipples are generally darkened. Nausea and vomiting are sometimes present. There is great nervous disturbance, pressure on the rectum, with hemmorrhoids, more or less pain in voiding water, and the uterus is more or less enlarged and tender to the touch.

Treatment.

Treatment of chronic inflammation of the uterus may be divided into general and local.

General Treatment.—The patient must be placed under the best practicable hygienic and dietetic rules, and sexual intercourse forbidden during treatment.

For the nervous prostration, fresh and cold air is one of the best and most suitable tonics. The patient should be in the open air as much as possible. If confined to the house, it should be well aired several times daily through the open windows and door. She should be kept in open cold rooms and the use of stimulants should be forbidden. For the nervous excitability, regular rest and out-door exposure are most efficacious remedies.

Medicines, as a rule, are not well borne in these cases. Quinine, nux vomica, wild cherry and chamomile are the best. Stimulants must be prohibited, and opium is generally not good.

Inability to sleep and neuralgic pains are often greatly relieved by bromide of potassium in full doses, thirty or forty grains, and in abundance of water, until relieved. Anemia and plethora, if present, must be met by appropriate remedies. Constipation is often present, and must be overcome by prompt attention to the calls of the bowels, by a full vegetable diet, especially of fruits, and by drugs. Of the latter, the sulphate of magnesia, in two to four drachm doses, may be given with some acid in the morning; or four to six grains of blue mass may be given every fourth or fifth night, followed by Epsom salts in the morning.

When, through long habit, the secretion of the intestines is scanty and their coats inactive, a special tonic is called for. A simple and effective formula is tincture of nux vomica, two drachms; sulphate of iron, eight grains; water, two ounces; mix; a teaspoonful three times a day, after eating. Or, if pills be preferred, take four grains of extract of nux vomica, thirty grains of the extract of rhubarb, and ten grains of the sulphate of iron, mix and make sixteen pills; one to be taken two or three times a day, as may be necessary. Or, sulphate of quinine, thirty grains; tincture of nux vomica, four drachms; aromatic sulphuric acid, one drachm; water, four ounces; mix; take a teaspoonful three times daily, after meals.

These are the most suitable remedies. Massage is not infrequently a valuable aid. The method by which this is performed is as follows: The operator, with one of two fingers in the vagina, grasps the body of the uterus, so that he can exert upon it a steady pressure, while the counter-pressure is exerted by the other hand through the walls of the lower abdomen. If these walls be sufficiently loose, and enlarged by this procedure, the uterus can be held between the two hands and gently pressed and kneaded. When the organ is displaced, it is usually necessary to correct this displacement before this method can be effectually used.

Cold water may be thrown into the rectum twice a day in small quantities, say eight ounces; or a suppository may be used; extract of gentian, twenty grains; cocoa butter, twenty grains; for one suppository.

Local Treatment.

Of the local measures employed, baths may be first mentioned. The most common bath is the sitz or hip bath. Where there is much pain with little inflammatory action this often affords much relief.

If a speculum be introduced during the time of taking the bath, so as to allow the water to enter the vagina, much additional benefit will be received. The temperature of the water should be made so as to be most comfortable to the patient. Vaginal injections are applicable to almost all cases of inflammation of the womb. The quantity of water should be large, and frequently may be of a high

temperature. Occasional astringent injections will be found advantageous, used once or twice daily, not to be repeated as long as the vagina is not dry from the preceding injection. The temperature should be governed by the feelings of the patient.

The application of the nitrate of silver in the solid form to the inflamed or ulcerated portion of the uterus will be found to be a very potent remedy. But it must be carefully applied, using no more force than is necessary to keep it in contact with the part. It should never be applied by inexperienced persons. A strong solution of this remedy applied by means of a camel's-hair brush will frequently answer the same purpose. Dr. N. V. Taliaferro, of Atlanta, Ga., recommends pressure for uterine inflammation and diseases, especially for chronic inflammation. This pressure is exerted by filling the vagina firmly with well-prepared cotton or sheep's wool in the form of a tampon. Commencing the use of this tampon, the vagina should not be entirely filled. It is better first to fill the upper portion of the vagina, which may be done quite tightly, and gradually to fill it entirely, as the vagina becomes accustomed to the foreign substance. Sometimes, however, the tampon will irritate the vagina in the commencement of the treatment. It should be left off for a few days and hot-water injections substituted. If there be but little irritation, however, the use of a little vaseline on the surface of the vagina may enable us to continue the tampon. Dr. Taliaferro is convinced that by this method a rapid reduction of congestion in the parts will be effected.

Where there are adhesions of the uterus, resulting from inflammation, no matter how extensive, the patient and persistent use of this course of treatment will entirely overcome it.

Robert Ellis, of London, recommends the following course of treatment for the various kinds of ulceration of the mouth of the womb :

Indolent Ulcer.—Where the neck of the uterus is enlarged, of a pale, pink color, and hard ; with the mouth of the womb slightly open ; ulcer of a rose red ; granulations large, flat, insensitive ; the edge of the ulcer well defined ; discharge mucus, with pus, and occasionally a little drop of blood.

Treatment.—For a few times apply the solid nitrate of silver, afterward the solution of nitrate of silver, or strong nitric acid.

Inflamed Ulcer.—The neck is hard, tender, a little enlarged, hot and red ; the vagina hot and tender ; ulcer of a vivid red ; granulations small and bleeding ; a livid red border around the ulcer ; discharge mucus and pus, yellow and viscid, with frequently a drop of bright blood with it.

Treatment.—Occasionally, leeching ; a warm hip-bath ; emolient injections ; then acid nitrate of mercury several times, succeeded by the solid nitrate of silver.

Fungous Ulcer.—The neck soft, large, spongy to the touch ; the mouth wide open, so as to admit the finger ; ulcer large, pale, studded with large and friable granulations ; discharge, glairy, brownish mucus, frequently deeply tinged with blood.

Treatment.—At first the solid nitrate of silver pencil; afterwards, nitric acid, solution of nitrate of silver, or acid nitrate of mercury, and actual cautery.

Senile Ulcer.—Neck small, red, and a little hard; ulcer small, extremely sensitive, and of a bright-red color; granulations very small, red and irritable; discharge, thin mucus pus.

Treatment.—Strong nitric acid with nitrate of silver once or twice at long intervals. The solid sulphate of copper in pencil.

General Disorders of the Uterus.

There is a long list of nervous symptoms generally confined to women, although not entirely regarded as arising from disorders of the female organs.

They have sometimes been regarded as independent affections, having various sources, and generally have received the cognomen of "hysteria," for want of some better name to give them. Modern investigation, however, has given us a more definite and correct notion of their real cause, and we have been led to regard them as arising from some troubled condition of the sexual system. Medical men, however, differ as to whether the symptoms referred to be the result of the disease of the uterus, or the disease of the uterus the symptoms, which owe their origin in a disease remotely situated from this organ.

There are those who believe that the uterus has very little sympathetic influence; that the diseased condition of the uterus is frequently the result of diseases in other

organs; that the symptoms accompanying a diseased condition of the uterus are not dependent upon any affection of this organ, and that these symptoms may be cured without paying any regard to the disorders of the uterus. Others hold that the diseased state of the sexual system exercises a morbid influence over the whole economy of the system, and that the only method of relief is the removal of the diseased condition of the uterus. Those who adhere to this latter view are again divided. One part of them hold that the sympathetic influence of the uterus is only manifest in the organs inflamed or ulcerated; that the removal of these disorders relieves the symptoms. The other party maintain that the inflammation and ulceration are of but little importance, while the origin of the symptoms are wholly traceable to the displacements of the uterus.

These various theories have their advocates in men of high rank and standing in the medical profession. This seemingly contradictory view held by men of distinction in reference to the origin of these symptoms need not cause any surprise, since the same variety of opinion is found to be held by men similarly high in place in reference to the origin of many other diseases. Much as men may be disposed to differ in regard to the theory of the origin of any of the symptoms with which females are annoyed, but little difference exists in the methods undertaken for the eradication of the disease.

It cannot be denied that the uterus exerts a sympathetic influence over many of the organs of the body.

When it is under a state of excitement, as during menstruation or gestation, we have, as a result, indigestion and constipation, with all the nervous symptoms resulting from such abnormal condition. Would it not be reasonable, then, to conclude that when the uterus is affected by disease or displacement, we may have a great variety of nervous disturbances? The various organs of the system, in the discharge of their offices, depend each upon the proper operation of another. If a defect appear in any of the parts of the machinery, the whole machine, to a greater or less extent, must be deranged.

The stomach, for example, when laboring under the stimulus of digestion, influences, in some degree, many important organs of the body. The brain is always more or less influenced by digestion, so that, if a heavy meal is to be disposed of by the stomach, the brain will be so influenced as to very much interfere with sleep. Upon the other hand, if, after eating a hearty meal, there be great mental or nervous exertion, the food will remain undigested in the stomach.

So we see that the various organs of the system are so intricately woven together as to render it impossible for disease to exist in any one part of the system without more or less derangement of the whole physical economy.

Displacement of the Womb, and Its Causes.

This disorder prevails to an alarming extent, if we are to judge from the number of women who say, after reciting their many afflictions, "and I have displacement of

the womb." But it is doubtless true that very many married, and even unmarried women are thus afflicted. The womb is generally described as resembling an inverted pear, and lying between the bladder and the rectum. In the virgin, when healthy, it is about two and a half inches in length. It is held in position by folds of membraneous ligaments. In cases of debility, these supports of the womb, partaking of the general weakness, are relaxed, become longer than natural, and permit the womb to drop down below its proper place in the pelvis. This constitutes prolapsus uteri, or "falling of the womb." There are other causes that predispose to this displacement, such as increased weight and size of the uterus, which not infrequently is the result of repeated inflammations; the presence of tumors within its cavity; distention of the abdomen, induced by constipation; intestinal inflammation; dropsy; distended bladder; enlargement of the ovaries, etc. Pressure on the abdomen, tight dresses, corsets, or heavy clothing carried on the hips, tend to the same end.

Displacements may occur instantly from exertion, as lifting a heavy load, especially if the load be carried against the abdomen. Repeated instances of instantaneous displacement from carrying a washtub of water are known. The organ can be displaced by severe straining to empty either the bowels or bladder, or by a fall upon the feet or knees, a blow, or exercise in running up and down stairs.

The various kinds of displacements have received names corresponding with the position that the womb takes in the pelvis. When it falls directly downward, "prolapsus"; when it bends forward, "anteversion"; when backward, "retroversion"; when it bends upon itself backward, "retroflection," etc.

Keeping in mind the position of the womb, it will be easily seen that, if the bladder be distended, the womb will be thrust back against the rectum, and *vice versa.* If the rectum be allowed to fill and remain distended with fecal matter, the uterus will be thrust forward against the bladder. When either of these conditions is allowed to remain for a length of time, the womb becomes permanently displaced.

Simple displacements may be carried for a long time without causing any discomfort, particularly by strong women of phlegmatic temperament, or of a not very susceptible nervous system; but others soon become aware of some derangement by numerous symptoms.

The predisposing or exciting causes of uterine displacements are numerous. Sedentary habits, by weakening the whole muscular system, frequently give rise to this condition. Habitual constipation, resulting from disregard of the laws of life, and disturbance of the general circulation in its turn causes inflammation of the mucous membrane of the vagina. This, followed by leucorrhea and relaxation of the uterus and its environment, produces more or less displacement of the uterus.

Fashionable modes of dress, tight lacing, wearing of heavy skirts, overgarments, and their pressure about the

waist, all tend to crowd the bowels downward, and force the uterus out of its normal condition. It is difficult for a woman who continues to dress fashionably for a number of years, and, especially, if she began before maturity was fully established, to avoid this result. (This may not be in harmony with the ideas of the more fashionable members of society, yet it is none the less true.)

Another very fruitful predisposing circumstance of displacement is found in the injudicious use of the emmenagogue medicines. These occasion congestion of the organ, which congestion frequently results in inflammation, or may induce hemorrhage, which may be mistaken for menstruation. This congestive condition, which results in inflammation of defined portions of the walls of the uterus, causes thickening upon one side or the other of it, making it heavier or more gravid, so that the uterus is unequally balanced, and is disposed to fall to that side which is most heavy. This perhaps is one of the most fruitful causes of displacement. If the extra weight be upon the posterior wall, or back part of the uterus, the uterus itself will be disposed to fall backwards against the rectum, producing constipation, and, consequently, general disturbance of the alimentary canal. This displacement, as has been said, is called retroversion. If the thickening be upon the front, or the anterior portion of the uterus, it will tilt forward against the bladder, and we have what is called anteversion.

There are certain kinds of female employment that have a natural tendency to produce displacement of the uterus.

For example, the position occupied by women at the sewing machine, in sewing by hand, at ironing, washing, etc., is more mischievous than the work itself, if it could be done with the body in an erect, upright position. Women, on account of any disease or debility, languor or any cause, habitually stoop and put the uterus in such a position in the pelvis as to facilitate its displacement. The pressure of the abdominal contents upon its body, increased by the exertion of coughing, sneezing, and even respiration, will seriously displace it. Such persons aggravate these effects in ascending stairs, walking, standing, etc.

Prolapsus of the Uterus.

This false position of the uterus is very frequent, and is a constant dread to females. It may take place suddenly and unexpectedly, or gradually, by successive steps. In the first instance, it may arise by accident, as a fall ; or by straining, as in lifting. The last type — that is, by successive steps — is the more frequent history of displacement. The causes leading to it are various, among which we might enumerate child-bearing, certain laborious occupations, habitual constipation, and general debility of the system.

This disease occurs most frequently among women who have borne children ; yet, occasionally, it is met in unmarried women.

The Symptoms.

The most prominent of the symptoms is a dragging weight in the pelvis, an irritability of the bladder and rec-

tum, pain in the back and loins, great fatigue in walking, inability to lift heavy weights, leucorrhea, and other manifestations. Generally, there is no derangement of menstruation.

If the prolapsed womb have fallen very low, so as to protrude externally, the woman becomes faint and the nervous system greatly affected. Prolapsus of the uterus, whether it be partial or complete, will continue to grow from bad to worse unless relieved by medical skill. It produces a long train of nervous symptoms that, sooner or later, renders the patient unfit for every kind of work. It rarely, however, proves destructive to life. On account of the many unpleasant symptoms that arise from displacements of the uterus, and the difficulties in meeting and overcoming these symptoms, experimenters have exhausted themselves in devising pessaries and supports of various kinds, to be applied for holding the uterus in its normal position. Each particular inventor has advocated the merits of his own particular invention. Many of the pessaries have important and valuable points, and, when properly applied, under favorable circumstances, where there is not too much local inflammation, are followed with beneficial effects.

Anteversion.

This malposition of the uterus consists in an inclination of the body of the uterus toward the bladder, with uncomfortable pressure upon that organ, interfering to some extent with its filling up with urine. The most frequent

causes of this disordered position are parturition, enfeebled muscular condition, habits of indolence and inactivity, loss of strength in the abdominal walls, and a thickened condition of the anterior portion of the uterus, destroying its equilibrium, and consequently tilting it toward that side that is heaviest. This hypertrophied or thickened condition is the result of congestion, or subsequent inflammation. In some cases, where the anteversion is but slight, there may exist but little local or constitutional disturbance, but this is not the general rule. In most instances it is accompanied by dysmenorrhea and sterility, and the bladder is i engendering pain, and constant desire to pass urine

Mechanical means, as a gener ule, will e required to overcome this character of displacement. The cause of this malposition should be sought after, and, if possible, removed, in order that a permanent cure may be effected. This, as a general thing, will require the aid of a physician.

Retroversion.

This disorder consists in the tilting of the body of the uterus backwards, and the causes are similar to those named above for other displacements of the uterus. A woman suffering from this form of displacement has severe backache, leucorrhea, dysmenorrhea, nervous prostration, menorrhagia and pelvic neuralgia ; locomotion is impeded ; she walks about with great difficulty, and is rather disposed to remain in bed. Her appetite is poor ; she craves everything, but nothing tastes good, and there is constant

tendency to flatulency and gastric irritation; she complains of a sense of burning in the region of the uterus, accompanied with more or less pain and tenderness, and even severe uterine colic. The patient is indeed miserable, unless she be of a very hopeful disposition, and may settle down in complete despair. Such cases do not usually receive that sympathy that their condition really deserves. The management is no easy task, and not infrequently taxes the ability of the most experienced physician.

General Treatment for Displacements.

In all displacements of the uterus it will be important to have an examination made by an experienced physician, to ascertain the exact position of the uterus, the probable cause, the normal condition and the best means for its restoration. To overcome the displacement it is important to ferret out and remove, if possible, the cause. In displacements where the vagina is sensitive the use of any kind of pessary will be impracticable. Extensive inflammation of the vagina and uterus will preclude the use of the pessary, and the doctor must first overcome this morbid state of the parts. For this purpose various applications will be made.

Water of various temperatures will be an important means to relieve the congestion and inflammation. We have found that large quantities of water at a high temperature are a most salutary remedy. It is important that large quantities be used in order to overcome the congested condition of the capillaries of the vagina. Any woman

knows, from experience in washing clothes, that, in the application of hot water to her hands for a short time, they will at first become red and rather swollen; but, if she continue the application for a time, the blood leaves the capillaries, the skin contracts, and her hands have a shriveled appearance. The same effect will be produced in the application of hot water to the vaginal walls, thereby relieving the congestion and overcoming the inflammation, which will conduce to the restoration of the parts to their normal condition.

We sometimes meet with undue sensitiveness of the perineum and lower bowel, which would also preclude the use of an instrument. This sensitiveness is often the result of a congestion, but is more frequently caused by inflammation and ulceration of the rectum, or hemorrhoids. Congestions of the uterus, especially in the acute and sub-acute forms, will preclude the use of the pessary. Simple congestion of the uterus and that of the vagina is not infrequent, and forbids the application of instruments. Any adhesions of the uterus will have to be overcome before pessaries can be worn with profit. (Were I talking to experienced physicians, who had observed the effect of pessaries upon these varied conditions of the vagina and its environments, these remarks would be unnecessary; but many persons endeavor to overcome displacements by the use of this or that instrument, only with the result of injury; hence the necessity of having a careful diagnosis made of the true character and nature of the disorder present.) Many women become

dissatisfied with their medical attendants because they cannot at once replace the misplaced uterus and maintain its position by the application of an instrument, as had been done in the case of an intimate friend. It must not be forgotten that, frequent as this disease appears among women, the most experienced physician rarely finds two cases that are entirely similar, and that will require precisely the same line of treatment.

Whenever there is any general disturbance of the circulation, together with pain in the region of the uterus, all attempts to restore the uterus to its normal condition will be extra-official. All kinds of tumors in the region of the uterus, as a general thing, will interfere with the application of the pessary. Yet occasionally cases will appear that may be made more comfortable, even where there is an existing tumor, by some mechanical contrivance for their support.

In the outset of the treatment by the means of mechanical support, the better method to be adopted is the application of balls of cotton, which may be immersed in some medicated liquid or unction, and introduced into the vagina in such size as may be suited to the cavity to be filled. Care should be taken, however, to attach a small cord to the balls of cotton, so that their removal may be accomplished without difficulty. These compresses in the uterus and vaginal walls may be increased in size and quantity as the parts become inured to the presence of a false body, until the entire vagina can be filled with them.

Thus the cotton may be saturated with properly-medicated liquids, and the womb may be held in such position as will restore it to its normal condition. No mechanical support to the uterus will be found better adapted to all kinds of displacement than these pledgets of cotton-wool, or sheep's wool.

In most cases the service of the physician will be required to replace a misplaced uterus, but in many instances the woman herself will be able to accomplish this end. In order that she may the more easily restore the position of the uterus, she should assume a genopectoral position — that is, rest herself upon her knees and breast, so that her hips may be elevated. Then, by introducing into the vagina a small tube, or even by introducing two fingers, so separating them as to permit the entry of air into the vagina, the gravity of the uterus from her attitude will compel it to fall downward into position. The pledgets of cotton referred to should be applied while in this position. Whereupon, she may turn over upon her side and rest for a few hours. If these directions be followed daily for a time, with the application of some mild astringent, the free use of water, proper regulation of the bowels, and good dietetic rules, good health will follow. All predisposing causes should be overcome so far as possible.

Among all the mechanical means adopted for the support of the uterus, the medicated tampons will be found the most beneficial, and least likely to produce harm in the hands of the inexperienced. Other pessaries, no

matter of what sort, should be repeatedly examined, lest they become imbedded in the soft tissue, producing erosions of the mucous membrane. This will be followed with ulcerations, thereby increasing the suffering that they are intended to relieve. No such dangers can result from the use of tampons or cotton-wool or sheep's wool, no matter by whom applied.

The following solution will be found quite efficacious on the diseased parts, and may be applied: Immerse the cotton in carbolic acid, one part; alum, ten parts; glycerine, eight parts. This solution will be found very erviceable in all diseases pertaining to the uterus and vagina. By the application of the glycerine a free discharge of water from the uterus and vaginal walls will be effected, thereby relieving the congestion and inflammation. The alum acts as an astringent on the vaginal walls, and the carbolic acid, from its antiseptic qualities, renders it possible for the tampon of cotton to remain a considerable time. It would be better, however, that the cotton be taken out every thirty-six to forty-eight hours, and the vagina washed thoroughly with water as before directed.

No inconvenience should be experienced by the patient in the wearing of this kind of support. It may be necessary, however, that only small pledgets of cotton be at first used, which may be increased as the comfort of the patient demands. The uterus is often subject to deformities, which may be confounded with displacements. These are termed flexions, and receive the names of "ante-

flexion," which means the bending of the uterus upon itself forwards, or "retroflexion," which means the bending of the uterus upon itself backwards. These conditions are very common, but as their diagnosis and treatment will depend upon the ability of a surgical expert, we need not enter into a discussion of their character here.

To the means above referred to for the proper restoration of this inflamed, congested and misplaced organ, as well as the parts immediately in connection with it, we may add massage, which will be found a valuable auxiliary in relieving such local congestion. The services of an experienced operator will be attended with the most satisfactory results; nevertheless, much benefit may be derived from this method of treatment, practiced even by an inexperienced hand. The abdominal walls should be thoroughly manipulated and kneaded, first gently, the pressure being increased as the parts become accustomed to the rubbing; deep and heavy pressure is to be made by the fingers of both hands down into the vagina through the walls of the abdomen. This is best accomplished with the patient lying on the back. Additional manipulation and pressure may be made upon the lower part of the spine and buttocks, the operator using both hands, applying their palms to the hips, and making heavy pressure repeatedly for several minutes while the patient lies upon her face.

The Ovaries.

The ovaries are situated on either side of the uterus, to which they are attached by a strong ligament, or cord. They occupy the posterior or back part of the broad liga-

ment. When their size and weight are somewhat increased by congestion, they may vary from their natural position by descending lower down in the pelvis. This is called displacement of the ovaries. The ovaries are seated so deep down in the pelvis as to apparently preclude every means of investigation. This is especially so in persons who are very fleshy, but women who are thin of flesh can generally reach the ovaries with the finger, because when they are influenced by disease themselves, or by displacements of the uterus, they are made to occupy a lower position in the pelvis, thus making their examination more easy.

(The most simple plan of examination is to introduce the index and middle fingers as far into the vagina as possible, and direct them high up to the side and back part of the uterus, while with the other hand, above the pubis, you make deep and heavy pressure upon the contents of the pelvis, so as to force them in the direction of the fingers already in the vagina. In performing this operation the patient should lie upon her back, across the couch, with her buttocks drawn close to its edge, and her limbs well flexed. By this means, generally, an examination of the ovaries may be pretty efficiently made, and, especially so, if there be any enlargement or misplacement of one or both of these organs.' The ovary is rather nearer the anus than the vaginal orifice; hence they may be the more easily examined by introducing the finger into the rectum. This, however, is usually accompanied with more pain to the patient.

The ovaries, like the other sexual organs, are the subjects of various diseases, such as, atrophy, hypertrophy, congestion and inflammation. The effects and symptoms of these various diseases are closely allied to those of the uterus and its surroundings.

Atrophy.—The ovaries, like other organs of the body, may be imperfectly developed. It is no uncommon thing to meet with a woman whose whole sexual system would indicate that of mere childhood. Her breasts are about the size of a miss of ten or a dozen years old ; she does not menstruate, and has no sexual desire ; if she be married she will not bear children. All the organs of generation will be found upon examination to be in an undeveloped state.

Hypertrophy.—By hypertrophy of the ovary is understood an increase of size without any manifest alteration of character. This may result from long congestion, causing an increased nutrition from the excessive blood with which the organ has been for a long time supplied. However, we have not been able to fully demonstrate the origin of this enlarged condition of the ovary. Another cause that may be assigned for this enlarged condition of the ovary is thought to be found in inflammatory effusions, which are due to chronic inflammation. We can generally detect these enlarged conditions of the ovary by physical examination, but it is not easy in many cases to determine the nature of the enlargement.

Displacement.—On account of the intimate relation and connection of the ovary with the uterus, and the

strong ligaments by which these organs are attached to each other, any displacement of the uterus may be followed by a displacement of the ovary. For example, when the uterus rises into the abdominal cavity, as it does during pregnancy, the ovaries are carried up with it, and may be felt in very thin persons through the abdominal walls, distinguished by their movability and tenderness. Likewise, in retroversion of the uterus, the ovaries are displaced to a greater or lesser extent downward and backward. This condition will frequently be followed with great trouble and pain, and is to a great extent a serious difficulty in the way of overcoming a backward displacement. In some cases, however, the ovaries may assume this position without any displacement of the uterus, thus causing a very troublesome disorder, which frequently receives the name of ovarian irritation. This displacement of the ovaries, also, is frequently accompanied with some organic disease. Such cases are accompanied by very morbid phenomena, destroying the comfort of the patient, and affecting her not only physically but mentally.

Symptoms of Ovarian Displacements.— The symptoms of ovarian displacements are of two kinds — general and local. The local symptoms are similar to those accompanying other diseases of the generative organs, viz.: Backache, tenderness along the lower part of the spine ; pain and weight, or a bearing down sensation are sometimes experienced.

Frequently there are a derangement of the menses and other troubles incident to the disease of the pelvic organs. As to general symptoms, it is questionable whether or not any person, in the delineation of these diseases of the pelvic organs, can draw the line of demarkation so as to say what class of symptoms belong to the disease of this or of that particular organ. Some authorities are of the opinion that the whole train of nervous symptoms arising from diseases of the vagina, uterus and vulva are reflected upon the body through the medium of the ovary, and that, no matter what organ is the seat of the disease, we shall have, in connection therewith, the necessary ovarian irritation. Many of the symptoms delineated in the article "Nervous Exhaustion," are no doubt more or less connected with displacement of the ovaries, to which article the reader is referred for these symptoms and their appropriate remedies.

Treatment.— The application of remedies for the relief of this or that nervous disorder, as headache, hysterical convulsions, sleeplessness, etc., will be found futile, and these symptoms can only be removed by hygienic treatment. The patient must have recourse to nutrition, exercise and baths.

Lack of nutrition seems to be the principal cause of this class of nervous affections — no matter whether you call it innutrition of the nerves or innutrition of the blood. If the blood be exhausted, the whole system must suffer, both in its physical and mental departments, and it is mainly through this channel that we may hope to

operate. What we want to do with such patients is to entirely revolutionize their habits of life, and increase the constructive processes of their systems." The accomplishment of this end will frequently call forth all the ingenuity and patience of the most experienced physician.

In some cases it will be necessary to enjoin perfect rest; in others, exercise, active as well as passive. The most important part of the treatment, however, is a proper selection of nutritious food, and in abundant supply.

Dr. Byford's prescription is, three ounces of beefsteak for breakfast; toast, potatoes, and other vegetables, as the capacity of the stomach or digestion will allow. Six ounces of roast beef, or mutton; bread and butter, potatoes, vegetables, etc., for dinner. For supper, the same as breakfast, and, after each meal and at bedtime, one pint of good fresh milk.

The only limit to be placed on the quantity of food indicated is the capacity of the stomach to retain it.

If the food be not rejected by vomiting, or do not irritate the bowels enough to cause diarrhea, the want of appetite or the inconvenience that may arise during digestion should not be considered reason for refusing it. Usually the stomach will soon become tolerant, and, after a time, the enriched blood circulating through its granular apparatus, will engender a relish for food, and the patient will eat with pleasure. This intimation that an inane stomach will necessarily digest with difficulty is intentional, for it is not believed that an energetic action is possible without a sufficient supply of blood. With this, or some

equivalent method of feeding the patient, there should be associated some plan by which she can get plenty of fresh air, and have as much exercise as she is able to take. This may be passive at first, but, as soon as possible, it ought to be active. Active exercise may be begun by having the patient walk, supported by a strong nurse. As soon as she can walk alone support should be withheld.

It is not rest but exercise that should be advised in these cases. Of this I am fully convinced by experiment and unmistakable proof in my own practice. As long as nutrition can be supplied the patient will profit by exercise, but, if nutrition be impossible, then, of course, exercise is is impossible also.

Thus far I have said nothing about medicines to aid digestion or to increase nerve force, not because I have no faith in them, but because I believe them of secondary importance — mere adjuncts, instead of the principals, in the treatment of this condition of the system. I could cite a number of instances in which this course of management resulted in averting the dangers and mutilations of the more heroic treatment by cauterization, establishing a vigorous and tolerant condition of the nerve-system, thus curing ovarian irritation.

These suggestions are applicable in other cases than displacements of the ovaries in which there is ovarian irritation.

As to the management of the displacement: In some few cases, where the ovaries are borne down by a displaced uterus, we may correct the displacement so far as

to greatly improve the circulation of these organs, and thus remove a great element in ovarian distress. This, of course, is done by correcting the displacement of the uterus by proper means of support, as has been already suggested.

Inflammation.—Acute inflammation of the ovaries will generally be found in connection with local inflammation of the peritoneum. Inflammation of the cellular tissues of the pelvis is a common affection. Inflammation of the ovaries, as an independent disease, is a rare occurrence. Examinations after death reveal the existence of inflammation of the ovaries and surrounding tissues, in all stages, from simple inflammation to destructive suppuration. This condition occurs as a result either of abortion, or labor at full term, and other puerperal conditions. Inflammation of the ovaries in this connection will cause no separate symptoms nor require any special mode of treatment.

Treatment may be commenced with five grains of calomel, followed in six to eight hours by a saline cathartic. Poultices may be applied to the abdomen, or, what is better, turpentine stupes, as have been suggested in the treatment for inflammation of the uterus. The pain should be relieved by opiates, after the operation of the cathartic. Rest, in a recumbent position, is strictly enjoined. The bowels should be kept open with some mild laxative. The diet should be light and non-stimulant, and the use of stimulants absolutely forbidden.

Nervous Exhaustion.

Nervous exhaustion has never been fully understood, nor its importance appreciated by writers on pathology. Consequently it has not received that amount of attention at the hands of the practitioner that its frequency and importance demand.

The nervous system is a term including all the nerves of the body connected immediately with the brain or spinal column, or with the ganglionic system. The nerves supply the stimulus administered to every muscle of the body, by which its action is influenced, whether that action be voluntary or involuntary. From this it will be observed, that if the muscular stimulus be exhausted, a healthy condition is impossible.

It is not at all surprising, then, that a disease that takes hold of the very root of the physical economy should claim important attention. By the nervous system we are what we are, and through it we are connected with the world. As nervous exhaustion occurs among all classes and conditions of society, it is not surprising that much speculation has been excited in regard to what change takes place in the substance of the nerves.

From the serious consequences resulting, it must be admitted that a subtle change takes place in the structure of the nerve, and that the change is more hidden in this disease than in most others. There seems to be no more plausible theory than that there must be influences so acting as to interrupt the normal equilibrium of nutri-

tion. Whether this conclusion answer all the scientific tests that may be applied to it or not, this subtle change must be effected through the well known principles of physiology. New developments have been made during the last few years that have materially affected our knowledge of the disease. However, the peculiar intermingling of the vesicular nerve cells, together with the rapid transmission of the various external impressions operating through the whole tract of the nerve to the brain, has been and may remain a mystery.

It has been shown that there are different nerves transmitting different external impressions to the center of the nervous system, and that one nerve transmits one impulse and another a different one. This is of much importance to us. For us to say we have any true knowledge of how it is done would be as absurd and speculative as to say what moves the wheels of a watch without knowing the motor power. We have some knowledge and acquaintance with the conditions necessary to maintain in what is called nerve force, and its power to receive external impressions. When interrupted, that power will grow less and less.

The whole nervous organism, being like all the other parts of the body, is liable to growth and decay. The forms of nerve debility are numerous and varied, and the agents producing this abnormal condition and causing debility are unlimited. But, when the whole complex machinery is kept within a proper radius of stimulated excitement, and the brain given a normal amount of work,

there will be an increase of nerve power and physical endurance.

It is of the utmost importance to accurately observe the first symptoms of over stimulation of the brain and nervous system, and thus be able to guard against subsequent results.

The parents and teachers should be the guardians of those intellects intrusted to their care. The instruction given by both, for the purpose of building up a perfect physique or a strong intellect in these more or less tender shoots, is only too frequently in direct violation of great physiological laws.

The more modern idea is to excite the mind and enrich it by innumerable external impressions. This is indulging the vain hope that this broad distribution of mental fertilizers will insure a rich harvest of thought, but forgetting that it will be followed by exhaustion and debility. The great complex body of instructors, themselves suffering from nervous debility to a greater or less extent, fail to remove the active agents causing nervous debility. By the neglect to apply preventive measures, subsequent ills are sure to follow. It is just when this mental twig should be fast gathering external impressions for growth and development through the watchful care of mental husbandry, that we too frequently witness its death in the vineyard.

Here and there is a scholar, maintaining a perfect state of nerve-nutrition, who pushes boldly onward and upward. Through his own efforts he is equipped for the wild billows on the ocean of life. Yet when he is rapidly ascending to

such giddy heights of greatness, he needs assistance, that the stock of combustion by which he is enabled to make his ascent, be not exhausted; for as the ascent has been great, the fall may be correspondingly hard.

Symptoms and Causes of Nerve Exhaustion.

The symptoms of nervous exhaustion have never been fully described in any work as yet written on the subject. They are so varied and manifold that volumes might be filled with them and the subject be left unexhausted. Suffice it for our purpose to introduce a few of the more prominent, that the reader may, by reflection and comparison, get such information from the subject as may cause her arrest if she be (as many women are) on the way to nervous bankruptcy.

For convenience and ease, let us commence with that part of the animal economy that is the seat of the nerve center, namely, the head.

Tenderness of the scalp manifests itself differently in different subjects. This tenderness may be over the entire head, or may be confined to the back of the head or front part of it. The scalp is frequently so tender that it is with difficulty that a comb or brush can be used. Even the very hair feels sore. There is frequently a sense of heat and burning at the back part of the head that may be relieved by firm pressure.

At times patients complain of a sore spot, or tenderness, sometimes on the forehead or temples, more frequently at the nape of the neck, or at the base of the

brain. Many want a support for the head because the neck aches so severely that it is unwilling to support the head. These patients have dull, inexpressive eyes. At times the pupils are freely dilated, and then contract alternately or temporarily ; one pupil may remain more dilated than the other.

Sick headache and head-pain generally are frequent symptoms. Some patients get sick and vomit, and then experience a sense of relief, but the pain is at times severe, and may not produce sickness of the stomach ; may be at the base of the brain, and may last for days, and then grow less, and is much more troublesome than sick headache. There is pain, pressure and heaviness in the back of the head and top, and through the whole head. This pain is quite common and may at times be the result of an excess of blood in the brain.

Vertigo, or lightness of the head, is a common symptom, and one that is very annoying, rendering the patient unable to balance herself well. She is never able to exactly describe her feelings. The eyes are variously affected by this exhaustion. At times the white of the eye is congested and red, the eyeball painful ; the patient complains of severe aching through the eyeballs, and is at times unable to use them. The vision becomes impaired. There appears to be a mist or cloud before the eyes. At other times there are dark specks, which often annoy those who are only slightly nervous. Noises in the ear, in the shape of sudden explosions or pulsations, with almost every variety of sound, are quite

common in exhaustion of the brain. These explosions come on at times, without any warning, when one is perfectly quiet. Sometimes there is a pumping sound, as though the heart were beating in the ear.

There are few organs that this disease does not affect, from the crown of the head to the end of the toes. The voice is changed, and there is a peculiar softness, faintness, want of courage, and clearness of tone. These terms may not be as clear as they should be, but there are few persons who cannot call to mind cases of this kind.

"The voice," says Emerson, "is a delicate index of the soul, and the orator can always tell, by the quality of his speech at the beginning of an oration or sermon, whether he is or is not in a mood of speaking — whether he is to be eloquent or will utterly fail." Dr. Cutter and others affirm that diseases of the reproductive organs are closely reflected on the voice, and that treatment directed to these organs, without any application to the vocal organs, will relieve them and restore the voice.

There is often an inability to concentrate the mind on any subject, such as writing a letter or reading an article in the paper, or a chapter in the Bible. The mind wanders away in every direction. When brought back by an effort of the will, one is liable to be soon lost again in reverie. Closely allied to this deficient mental control, is the saying of one thing, meaning another; saying sometimes the very opposite of what one meant to say; saying sometimes what it was wished to avoid.

There may be an irritability of mind, a disposition to

fret and become irascible over trifles which, when feeling well and calm, would have no influence upon her. The flurries of domestic life, the cares of the house, disappointments and vexations, even the noise and play of children, become a source of distress.

Hopelessness is another symptom. A person may be dying in the last stages of consumption or some incurable disease, and yet be hopeful. But in nervous exhaustion she is without hope. Her friends may laugh at her and ridicule her for talking, or even thinking of dying, but she is hopeless, because her nerve-force is so reduced that the mere holding on of life seems to be a burden too heavy to bear. Closely allied to this symptom of hopelessness is a morbid fear. Fear is indeed a first law of Nature, but, when the nerve-force of the system is being exhausted, the tendency in this direction becomes intensified, and the patient is afraid of everything. Should the door-bell ring she is startled, her "heart comes into her mouth." If a cloud rise in the horizon, she cannot be still, but paces the floor in unrest, fearing a terrible storm that will destroy everything.

Such patients frequently shun society and can scarcely be induced to attend church, much as has been their habit to do so. They are ever manufacturing trivial excuses for remaining at home.

Flushing and figitiness characterize the patient. This class of patients are easily flushed by any slight emotion, and are unable to keep still. The disposition to blush from the slightest possible mental or physical causes,

extending not only over the face and ears, but down the neck, and perhaps to other parts of the body, is very common.

Inability to sleep, called insomnia, is a usual symptom of nerve exhaustion, and affects persons in a great variety of ways. One finds no trouble in getting to sleep on retiring, but soon wakes, and must remain awake for the rest of the night. Another rolls and tumbles for hours before she can get to sleep. When once asleep, she does not usually wake until morning. Others sleep in naps. Bad dreams constantly harass the patient. Why a person disturbed with indigestion or affected with nervous exhaustion should dream of snakes and monsters, and not of green bowers and gardens of flowers ; of death and murder instead of delightful society and pleasant associations, is only explained upon the principle that a healthy functional action of the nervous system is designed to be in the main pleasurable, and that unpleasant dreams are the manifestations of nervous suffering, and, like physical pain, are a symptom of some abnormal condition.

But nervous exhaustion not infrequently, with some patients, produces the very opposite effect. They are listless and drowsy the greater portion of the time. Some cannot sit down to read or sew without experiencing an inability to keep awake, and perhaps in a moment the book or work falls from their hands and nothing is accomplished.

A peculiar symptom of nerve-exhaustion, and one frequently observed, is tenderness of the teeth, accom-

panied with a whitish or pale appearance of the gums. In these attacks, all the teeth may be very tender on pressure, although not decayed. In this disease, which has its origin in the great centers of sensation, it is not surprising to find pain or tenderness of any part of the body, as may be seen from a review of the symptoms we have been presenting.

In a great variety of cases, nervous dyspepsia is the first noticeable symptom of nervous exhaustion — the first sign that the body is giving away. The stomach may be functionally deranged for a long time before there is any other manifestation that the nervous system is failing. This species of disease should not be confounded with indigestion; that is the result of organic disease of the stomach, such as chronic inflammation or other disturbances interfering with a proper disposition of its contents.

In nervous dyspepsia the patients feel worse when the stomach is empty, and are relieved by eating, their greatest distress being before meals; they are unable to perform any labor, either mental or physical, on an empty stomach, without more or less suffering, such as pain in the eyes, pain in the head, and general nervous distress all over the body. The symptoms of nervous dyspepsia are very unstable, coming and going, and changing frequently. This form of dyspepsia is apt to be associated with other nervous symptoms in other parts of the body, and is most commonly found among persons of nervous temperament. Treatment directed to the nervous system benefits them, whether or not that treatment have any special beneficial effect upon the stomach itself.

No appetite for fluids at meals or at other times is another evidence of nervous exhaustion. Many nervous patients have said that they rarely take a drink of any fluid, having as little, if not less, desire for fluids than for solids. Hence, both in eating and drinking they are limited to starving quantities, because the stomach suffers if they take liquid as much as if they took food. When we remember that the body is composed mostly of water, we can easily see there is a danger of starving for the want of simple liquid, just as, under the influence of our civilization, we are starving for the want of fatty food.

Desire for stimulants and narcotics is a symptom of nervous debility. Whenever the nervous system grows feeble and unable to stand alone without some support, it begins to cast about itself for some convenient prop on which to lean. Artificial stimulants, which are always at hand, present themselves, and kindly tender the proffered aid by affording ease and comfort. Hence the patients try chloral, chloroform, opium and alcohol for relief from their troubles, and they try again, until the appetite for such stimulants is acquired. Thus many individuals become slaves to the drug-shop.

Sweating of the hands and feet, especially sweating of the palm of the hand, is a very common symptom of nervous exhaustion. The cases of this kind are frequently mild, and do not attract special attention unless referred to. There are others that are very severe, and the quantities of liquid discharged are incredibly large. Patients suffering in this way, on going to church for a couple of

hours will often need several pocket-handkerchiefs, and they will all be saturated with the excessive perspiration.

Tenderness of the spine, either in part or through its entire length, is a well-marked symptom of nervous exhaustion. When this tenderness becomes excessive, it is sometimes called spinal irritation. No matter what name you give it, it has its origin and source from an exhausted condition of the nervous forces of the system. This is a very common complaint, especially in large cities, and, should you undertake to examine the spines of all the ladies who live in the most fashionable avenues of the city, you would find, in a large percentage of the subjects between the ages of fifteen and fifty, marked tenderness either of the whole length of the spine, or, more likely, at certain spots, as between the shoulders, at the nape of the neck, or below the kidneys. Such patients often complain of crawling, creeping, or burning sensations; others of tenderness of the shoulder-blades or hip-bones, of the breast-bone, and, indeed, of the whole surface of the body. The pain of the back is accompanied with peculiar manifestations. There may be a sense of pain all along the spine, yet no tenderness. Conversely, there may be found manifest tenderness without the patient having complained of any pain. This condition will be found on examining any other part of the body.

There is, in some patients, a dead weight in the loins, which is a source of great distress. It may be brought on or aggravated by undue physical exertion. The heart, as might be expected, readily sympathizes with this

exhausted condition of the nervous system. The pulse is irregular, beating at times fast and again slowly in quick succession. These changes may take place two or three times in a minute. However, the pulse is generally frequent, beating from seventy-five to over a hundred per minute. Occasionally the pulse becomes very slow, sometimes with palpitation of the heart. It is quite apt to become very irregular and irritable, the beats being perceptible and painful, and many patients, when sitting quite still, are able to count the pulsations of the heart, manifesting a degree of suffering at every pulsation. The sight of a stranger always puts the pulse up to a greater degree of frequency, and the very act of examining it frequently sends it off in the same way.

Local spasms of the muscles and convulsive movements on going to sleep are ills that trouble these nervous sufferers. Sometimes you will observe a single muscle of the face twitch. It may be slight, or may become quite annoying, not only to the individual herself, but to her associates. Sometimes there is a violent spasm of the muscles of the limbs or body that is almost painful, just as the patient is dropping off to sleep, and at times it almost throws her out of bed. A feeling of numbness in any part of the head or limbs is a symptom of this disease, and one that frequently produces unnecessary alarm, patients fearing that they are threatened with paralysis or serious maladies. The face, the top of the head, the arms, fingers, legs, feet and toes are the parts usually affected. Sometimes there are flying, stinging, pricking

sensations as though pins were entering the skin; also an unusual tendency for the feet and hands to go to sleep on a very slight pressure. Sitting on a hard chair, riding in a street-car, omnibus or carriage may cause the foot to go to sleep when it would not have done so in health.

Itching, occurring without any visible change in the appearance of the skin, is a very common experience in this disease, and is at times persistent. It may be confined to a very limited surface — the head or face, the arms or legs, or the local seats of itching, and may vary with the general condition of the system.

A sudden giving way of the functions of the body, which prostrates the patient, will be experienced at times.

A patient at one part of the day may feel able to get about her work, or walk a distance to a neighbor's; at another may not feel able to cross the street or be out of bed. Many of the diseases belonging to women are caused from this extreme nervous exhaustion. It has long been the custom among physicians to attribute all the nervous troubles of which women complain to disturbances of some kind or other in the uterine organs. These are fruitful sources of a long and crooked line of bodily and nervous ailments. But nervous exhaustion is as frequently a source of uterine complaints, as the derangements of the uterus and its accompanying organs are the creators of all that long list of nervous affections that are so frequently chronicled in the calls of the daily practitioner.

Every physician who has given the cause of uterine congestion, displacements and inflammation, and especially uterine and ovarian irritability, special thought cannot have failed to observe that they are the result of unhealthy nutrition. This unhealthy nutrition is the result of the general unhealthy condition of the whole system.

It follows, then, if the reasoning be correct, that to remove and remedy many of these female diseases we should strike our heaviest blow at the real source, and rigidly apply such constitutional treatment as will tend to restore the lost vitality. It should not be understood that the many local appliances used to remedy disorders of the female organs are useless. They should be used only as auxiliaries and not as the principal factors of the treatment.

It has long been the custom of many medical men, in treating female weaknesses by agents of various kinds, to apply them locally to the organ upon which the disease is manifesting itself, without fully weighing all the evidence in the case. Would it not manifestly be more intelligent to first determine whether the organ complained of be in a state of disorder, or whether these symptoms of local disturbance be but the reflex action of the nervous system, and the organ affected be remotely situated from the apparent seat of the distress complained of? It would certainly not be very appropriate, in cases of disturbances of the digestive organs, which are frequently caused through this reflex influence of the nerves in pregnancy, to attribute the vomiting to chronic inflammation of the

stomach, and direct the treatment accordingly. Yet this is just as rational and beneficial treatment as much of the medication practiced by physicians for the cure of many of the diseases of the organs of generation.

For example, a woman suffering from prolapsus of the uterus consults her physician about the nature and cause of her ailment. He tells her that, on account of the relaxed condition of the muscles and ligaments by which it is supported, it is permitted to fall below its normal position, and the result is the inconvenience and suffering she experiences. "What am I to do? I cannot get about and attend to my household duties." He replies, I will introduce a support, or pessary, which will keep the prolapsed organ in its place, until its natural support is rested and restored to its normal condition." One cannot condemn unqualifiedly the use of pessaries in the treatment of displacements of the uterus; but to rely on them to overcome the enfeebled condition of the natural supports of the organ is manifestly insufficient treatment, and cannot accomplish the ends sought.

Why are the physical supports which have been provided by Nature to perform this work so weakened and relaxed as to be utterly unable to perform their accustomed functions? There is but one rational answer that can be given to this important question — namely, want of healthy nutrition, which is the primary cause of debility in any organ of the body. Hence, if we would overcome the relaxation of these natural supports, it will only be effected by restoring a healthy nutrition. This cannot be

accomplished entirely through the medium of rest. Exercise is as indispensably necessary to health as is rest. There is no more certain method of producing debility in any or all of the organs of either the mental or physical man than want of use. To demonstrate this requires the merest casual observation; compare the physical power of the individual who labors with the one who does not, or the mental power of the student with that of the person who does not use his brain. It will be seen, then, that to depend upon rest through the medium of the pessary alone would only increase the debility instead of overcoming it.

Treatment.

The treatment should aim to restore the lost forces of the system through the medium of hygiene, digestion, assimilation and medication, with proper attention to the local manifestations. The adoption of any hobby or arbitrary rule, to be followed with all patients, will not accomplish the end sought. As well might the mariner, starting upon a voyage, undertake to set the helm so as to direct his vessel into the objective port. He must stand at the wheel and accommodate the rudder to the shifting winds and currents. So with the treatment of any disease. It must be varied so as to be suitably adapted to all the changes that will develop in the progress of restoration. There are idiosyncrasies in every constitution that must be respected.

When one mode of treatment fails to accomplish the desired end, another should be adopted. Notwithstanding the great number of this class of patients, we find no two of them exactly alike in every particular. As well might you undertake to find alike two blades of striped grass. There will be a difference in the many shades. So that if two be treated precisely in the same way, it is very probable that one of them is treated wrong. A suspension of treatment entirely for a period is often attended with beneficial effects.

Patients insist upon "doing something" all the time, but rest in treatment is often like rest in anything else — a source of much good. A very noted character made the remark that success in life depends on learning how long it takes to succeed; but it also frequently depends on knowing just where to stop. So in the practice of medicine, this is certainly sound doctrine. To know where to stop, to rest, or modify the treatment, is one of the best tests of medical skill. One great difficulty in the way of patients undertaking to medicate themselves is their tendency to overdo whatever means may be used, not satisfied unless they are forever pouring something into their stomachs. This disposition to be taking something continually often compromises the better judgment of their physician. Oftentimes he may feel as though the best thing for him to do, at this particular crisis, is absolutely nothing; but knowing the feeling of the patient or friends on this point, he "arbitrates his judgment," and yields to their importunity.

But we have intimated that hygiene is an important element in the successful treatment of nervous exhaustion. This factor in the practice of medicine is too often overlooked, and is not given that credit that its importance demands. Skill and judgment are as necessary for its proper and successful administration as they are in any department of medication. To vary it according to the physical condition of each patient or of the same patient at different times and in different circumstances, will require the exercise of the best judgment and experience. Some cases may require quite vigorous out-door exercise ; others should only be allowed very moderate exercise ; on others still, the most absolute rest should be enjoined. There may be a necessity for and great benefit derived by attention to exercise and rest.

There is oftentimes a very practical mistake made in shutting up some patients who need exercise, and exhorting others to work and travel who should be kept in bed. Diet, also, should be varied, to meet the special necessities of each particular case. The theory of starvation that has had its advocates and worshipers, to the disadvantage of many sufferers afflicted with some of the phases of nervous trouble, is being supplanted by another doctrine equally pernicious in its effects. It is that of feeding patients beyond their powers of digestion and assimilation. Great care must be exercised to accommodate the quantity and quality of the food to the absolute wants of the patient. While some may need to be cautioned and even restricted in regard to quantity, others must be coaxed and tempted to eat more than is their custom.

Abstaining from food consisting of starch and sugars, or using these substances but moderately, and supplying their place by as free use as the stomach will allow of fats, oils, fish, oysters, butter, and milk, is a potent adjunct to the treatment. The great need, in much of the food which is used to-day, is a more liberal supply of fat, in such form as the stomach will digest and assimilate. Time was when persons ate large quantities of fat meat and greasy substances in boiled dinners. Thus, from their daily meals, they received all the fat necessary to supply the demands of the system, and perhaps more. But now "boiled dinners" have been dropped from the dietary and poverty of the blood, "which is the life" follows in consequence. If fats be not an important element in the constructive process of the animal economy, why do patients suffering from some wasting disease, as consumption, uniformly improve if they can take and assimilate oily emulsions?

Some persons who live in the cities and board at fashionable hotels or boarding-houses, and are accustomed to eat large quantities of rich, highly-seasoned food, with but little exercise, develop many symptoms of nervous exhaustion. When they are restricted to a more plain and limited diet, with no other treatment, they get well. On the other hand, patients on account of ailments such as described, have dropped one article after another from their diet, until they reduced it to natural elements "bread and water," and maintained that even those gave them discomfort. On being told that they were starving them-

selves they have ordered a more liberal and general diet, and soon, without any other treatment, have regained their lost strength.

Even in cases of nervous dyspepsia it is a mistake to be over-rigid in diet. Starvation of the body increases the very weakness of the stomach itself, and thus makes the indigestion worse, for the stomach itself needs the nourishment.

In cases where the stomach is weak and the exhaustion profound, the patient may be nourished through the rectum. This can be done by injections of filtrated blood or by milk, or by the juice of beef. Patients who have been nourished and medicated in this way for weeks gain strength and get well. The stomach returns to the discharge of its accustomed functions.

In some instances it will be well to try, for a limited period of time, a radical change of food. A mixed diet should be abandoned, and an entirely vegetable one substituted. Beneficial mental impressions are thus effected, the sudden change giving stimulus to the nervous functions. A diet composed largely of milk, will be found invaluable, especially in some forms of nervous dyspepsia. If it do not seem to agree with the stomach, and the patient be disposed to belch, lime-water may be added, in the proportion of one part lime-water and three parts milk.

Koumyss is comparatively a new remedy in this country, and has the double advantage of being food for the body and a sedative to the nervous system. Its power

to produce sleep is very great. It is a means of nourishing the body without disturbing or even using the stomach to any very great degree. Koumyss is really digested milk, and is absorbed and taken up into the system without any special strain upon the digestive organs. It is claimed, upon reputable authority, that, from experiments made, it was pretty clearly proven that the alcohol of the koumyss was not eliminated from the system, but used up. This remedy has been used but little perhaps on account of ignorance in its manufacture. A formula for making it is appended.

One quart of pure milk.

Two tablespoonfuls of sugar dissolved in water over a fire, sufficient only used to make a solution.

One-fourth of a two-cent cake of yeast.

Put all into a strong quart bottle, and let stand over night or for six hours at a temperature of from 50° to 90° Fahrenheit. Then place in an ice-box to preserve, and it is ready for use.

When there is no debility of the stomach, frequent feeding is oftentimes beneficial. Any kind of light, nutritious food may be taken. The intervals may be fifteen minutes to two hours. Cases are known where it was made the business of an attendant to simply feed the patient at certain intervals, varying them according to the result obtained. There is a class of invalids who can moderately exercise and keep on with their business while taking some treatment. They have need to exercise much care and need to be cautioned, lest they overdo their

strength. The best rule to adopt, in all their exercise, is to stop short of much fatigue.

There is a time to work and a time to rest in the management of nervous diseases. Some patients suffering from irritation of the spine need absolute rest, and should go to bed. Others, suffering only from an overworked brain, would be benefited by exercise — light work for both body and brain. Frequent change of work is to be advised. Steady activity, not in any single direction, resting by alteration of work, is advisable.

Rest and isolation may, in some cases, be highly advantageous. Shut the patient up in a room and keep her in bed and entirely free from company, so that the entire system is rested. Improvement in flesh is very soon seen, and followed by a corresponding increase of strength. Among the difficulties of this kind of treatment are the prejudices and whims of friends, and the apprehension of the patient herself, thinking confinement is more burdensome than it really proves to be after a fair trial. When the arrangements are made and the patient has put herself under the treatment, she usually finds it comparatively easy, in a short time becomes perfectly reconciled to her new mode of life, and begins to "fat up," and with the fat becomes a new life and more strength.

Nervous brain-workers do not need always to suspend all brain labor. It is better, that the mind be actively though pleasantly employed. This may be proved from men who have given up all brain work. They become frequently the most nervous patients that can be found.

When a muscle becomes weakened through disease, we try to strengthen it through passive and moderately active exercise, believing that thereby its nutrition is improved. The brain must be governed by the same law. The feeble and tired brain, like the feeble and tired muscle, needs a certain amount of exercise. Intellectual labor of the higher order frequently saves friction from the emotions of the lower order, and thereby becomes a remedial agent.

It is not to be expected that mental treatment alone is all that is necessary to restore these nervous patients to their accustomed health. In addition to all that we have said, due regard must be given to such agents as massage, electricity, and medication. No matter if the mind be a strong force, it is not the only force that can be used for the control of functional nervous affections. Errors seem to have arisen from the belief that the symptoms we attribute to exhaustion of the nervous system are merely imaginary, and have no real objective existence, and, that they are to be expelled by the same influence — the patient's own mind. We will not undertake to deny that the emotions, by long dwelling upon the body, may excite various diseases. Still, diseases so caused are as real, as serious, often, as diseases excited in any other way. They may need active treatment, and can no more be blown away by a few words of encouragement than can an attack of fever.

The treatment by medication that seems to be best adapted to the alleviation of these nervous affections

should, of course, be administered at the hand of a competent physician. It may be indicated in the following order :

Ergot seems to suit many patients, perhaps on account of its power to contract the blood-vessels, and thereby overcome congestion.

Arsenic in various forms, though a potent remedy, and to be carefully watched, is well worthy of trial.

Caffeine, in some of its preparations, is another remedy that has been proved to have a salutary effect under depressed conditions of the system, sick headache, backache, etc.

Coca will be found a very sustaining tonic in abstaining from food and relieves the pain and uneasiness that follow over-exertion.

The preparations of zinc, particularly the bromide valerianate and oxide are valuable sedatives.

The bromides generally are useful. Bromide of potassium has perhaps been used to excess, and thereby abused, as any remedy may be.

Nux vomica, or strychnia, in many cases, does much good. It is well to use it with other remedies, as quinia.

The mineral acids are old remedies. They have not lost caste, and are still good.

Electricity is well worthy of a place among the agents used for nervous patients. It should have a fair trial. Baths should not be neglected, as they certainly are important auxiliaries in the treatment. Massage is an

excellent adjunct to other treatment, especially with those persons who cannot take exercise. It should be systematic. This is performed in four general ways :

1. Simply pinching the skin. This is done all over the body.

2. Pinching the muscles. This is done with both hands, which grasp deeply as much of the muscle as possible. The hands should be well oiled.

3. Tapping and beating, or percussion. The body may be gently hammered with the hand, pleximeter, fingers, or balls. This method has the advantage of sending vibrations to parts remote from the first point touched.

4. Passive movements of the joints All the joints in the body or limbs are moved backward and forward, and rotated each a number of times.

The effects of massage when thoroughly performed and carried out are highly beneficial, quickening and equalizing the circulation, producing a quieting effect, promoting sleep and giving relief from pain, and that miserable nervous condition worse than pain. The bowels should be thoroughly kneaded, especially in constipation, and in displacements of the uterus and diseases of the stomach and liver. Farther directions in this method of treatment are given in another part of this work.

INDEX.

A

PAGE.

Abdomen, changes in, during pregnancy 417
Abdominal pains during pregnancy, causes of 570
Abortion, deaths from 400
Abortion, methods of producing 395
Abortion the greatest of crimes 391
Accidental dysmenorrhea 207
Accomplishments of the maiden 245
Acquirement of polite accomplishments, purpose of 250
Acute suppression of the menses 191
Adolescence 175
After-pains in child-birth 593
Age of puberty 178
Air and light of the nursery 55
Air space required in lying-in sick-room 510
Amenorrhea, or suppression of the menses 188
Amusements, physically and mentally 141
Anteversion, causes of 653
Aphonia, or loss of voice 227
Appetite a sign of pregnancy 422
Application of "the bandage." 23
Approach of the menses, evidence of 176
Artificial nursing, effects of 68
Atmospheric causes of disease 561
Atrophy — or undeveloped ovaries 662

B

Bandage after confinement, how applied 23
Barrenness 402
Barrenness, causes of 406
Bathing in cold water 30
Bathing infant, proper time for 28
Bathing of the infant 25
Bathing the infant, condition of water in 28
Bathing the infant improperly, effect of 29

PAGE.

Bathing, use of soap in 27
Bed-chamber, furniture in 338
Bed-chamber of a parturient woman 511
Bed-chamber, requisites of 337
Bed-chamber, size of 456
Bed-chamber, the model 338
Bed-chamber, ventilation of 338
Bed-clothing, cleanliness of 513
Bed, clothing of 512
Bed-clothing, necessity of airing 39
Bed, constituents of a good 341
Bed-coverings, proper care of 342
Bed, location of 512
Bed, number of days to keep the 508
Bed, preparation to leave 508
Bed, the 340
Birthmarks 466
Bowels, laxative for moving the 509
Bowels, treatment of 504
Breasts, changes in, during pregnancy 416
Business qualifications of the husband 291

C

Carbonic acid gas 338
Care of the teeth 83
Causes for limitation of offspring 376
Causes of disease 558
Causes of disease, atmospheric 561
Causes of disease in general 555
Causes of dysmenorrhea 204
Causes of functional disorders 187
Causes of hysteria 222
Cause of irritations and eruptions on infants 26
Causes of nervous exhaustion 671
Causes of piles 585
Cessation of menses 536
Cessation of menses a law of nature 542
Celibacy 547
Celibacy, advantages of 549
Celibacy, disadvantages of 551
Celibacy, social advantages of 550
Ceremony of the wedding 300
Chafing, causes and treatment of 99

PAGE.
Change of life ... 535
Change of life a law of nature ... 542
Change of life, incidents attending ... 537
Change of life, physical and mental disturbances caused by ... 538
Change of life, treatment during ... 540
Changes wrought by puberty ... 175
Child-bed fever, nature of ... 610
Child-birth, after-pains in ... 593
Child, bowels of ... 504
Child, conditions of the mind of the ... 131
Child, diet of ... 120
Child, errors in diet of the ... 119
Child, food of the ... 119
Childhood, innocent pleasures of ... 141
Child, influence of digestive process on the mind of the ... 131
Child, proper indulgence of the ... 150
Child to breast, putting the ... 503
Children, blessing to a home ... 363
Children, twins, triplets, etc., at a birth ... 432
Child, unnatural developments ... 463
Child, what may be known before birth of the ... 428
Chlorosis ... 213
Chlorosis, time of occurrence ... 214
Chorea, or St. Vitus' dance ... 215
Chorea, or St. Vitus' dance, treatment of ... 218
Chorea, symptoms of ... 216
Chronic inflammation of the womb, treatment of ... 641
Clavus hystericus ... 230
Cleanliness, importance of ... 506
Clothing, change of the ... 507
Clothing of infants ... 31
Clothing of new-born infant ... 22
Coition, debilitating effect of ... 349
Colds, causes and treatment of ... 102
Cold water bath for children ... 30
Colic, menstrual ... 177
Commencement of menstruation ... 178
Complications resulting from whooping-cough ... 109
Conception, effects of vaginal injection to prevent ... 400
Conception, evil effects of preventives of ... 390
Conception not possible at certain period ... 386
Conception not possible during lactation ... 385
Conception, preventives of ... 388
Conception, use and effect of means to prevent ... 400
Condom, effects of the use of ... 400

PAGE.
Confinement, articles of dress for 477
Confinement, attendants during, hints for 481
Confinement, bandage for 477
Confinement, child's clothing 478
Confinement, preparations for 477
Confinement, proportions of bandage for 477
Confinement, temporary dressing of the bed during 481
Confinement, the bed for 480
Confinement, the rooms in 479
Congestive dysmenorrhea 207
Congress, painful 358
Conjugal faithfulness 347
Conjugal love essential 348
Consanguinity to be considered in marriage 271
Constipation 570
Constipation, causes of 572
Constipation of pregnancy 415
Constipation, treatment of 573
Constipation, treatment of, by dietetical method 573
Constipation, treatment of, by medicinal means 574
Constipation, treatment of, by Swedish movement cure 576
Continence a virtue 369
Contract of marriage, importance of 311
Convulsions, hysterical 226
Convulsions of infants, causes of 86
Convulsions of infants, treatment of 87
Convulsions, puerperal, symptoms and causes of 607
Convulsions, puerperal, treatment of 608
Costiveness of infants, causes and treatment of 91
Costiveness, treatment of 510
Courtship, deception practiced during 266
Courtship, purpose of 253, 262
Covering of new-born infant, how to remove 22
Cow's milk for infants, how prepared 48
Creative power belongs to woman 352
Croup, kinds, symptoms and treatment of 104
Crying of infant, causes of 50

D

Danger in weaning, sources of 65
Dangers of feeding children 68
Death of husband, influence of upon wife 543
Death rate among children, cause of 349

PAGE.
Deaths from abortion ... 400
Definition of disease ... 556
Definition of health ... 557
Deformities, how to prevent ... 518
Derangement of menstruation, diseases from ... 213
Diaper, how to apply ... 24
Diarrhea, causes of ... 581
Diarrhea during pregnancy ... 415
Diarrhea, treatment of ... 582
Dicrotic pulse explained ... 564
Diet at the age of puberty ... 183
Dietetical method of treating constipation ... 573
Diet for mother ... 521
Diet for the pregnant ... 416
Diet of the mother after child-birth ... 505
Diphtheria, symptoms of the disease ... 95
Diphtheria, treatment of ... 96
Disease, ascertained causes of ... 560
Disease, atmospheric causes of ... 561
Disease caused by certain vocations ... 561
Disease caused by excessive sleep ... 562
Disease caused by mental toil ... 562
Disease, definition of ... 556
Disease, examples of symptoms of ... 567
Disease, general causes of ... 135
Disease, how may be averted ... 559
Disease in general, causes of ... 555
Disease, "predisposing causes" of ... 559
Disease, principal causes of ... 558
Diseases caused by intemperate habits ... 561
Diseases from derangement of menstruation ... 213
Diseases of infancy ... 84
Diseases of the vulva ... 625
Diseases of the vulva, treatment of ... 626
Diseases of women ... 553
Disease, variety of causes of ... 560
Disorders of the uterus ... 646
Displacement of the ovaries ... 661, 663
Displacement of the womb, causes of ... 648
Displacement of the womb, treatment for ... 655
Divorce ... 316
Dress, errors in, causes of disease ... 139
Dress, importance of ... 161
Dress of infant ... 26
Dysmenorrhea, accidental ... 207

PAGE.

Dysmenorrhea, causes of 204
Dysmenorrhea, congestive 207
Dysmenorrhea, hygiene of 210
Dysmenorrhea, inflammatory 208
Dysmenorrhea, obstructive 208
Dysmenorrhea, or painful menstruation 203
Dysmenorrhea, simple 206
Dysmenorrhea, symptoms of 204

E

Earache, cause and treatment of 98
Eczema, form of 632
Eczema of the labia, treatment of 637
Eczema, treatment of 634
Education of the young woman, purpose of 247
Effect of improper bathing of infant 29
Electrical treatment for nervous exhaustion 691
Enlarged veins, treatment of 580
Engagement of marriage, when to make 252
Engagements, breaking of 255
Engagements, long and short 254
Epoch, the new 331
Eruptions and irritations on infants, causes of 26
Evidence of the approach of the menses 176
Evil effects of preventives of conception 390
Excessive menstruation, or menorrhagia 197
Excess, physical and moral effects 354
Exercise at the age of puberty 183
Exercise of the infant 41
Exhaustion from disturbed menstruation 237
Exhaustion of nervous system, treatment for 683
Exhaustion of the nervous system 667
Exhaustion, treatment for 239
Expectation of offspring 362
Extent to which offspring should be limited 376

F

Fashion, influence of 164
Feather beds 340
Feather beds, objections to 342
Feeding children, dangers of 68
Feeding infant, proper times for 52

PAGE.
Feeding or nursing infants ... 43
Feeding infant to excess, effect of ... 59
First sight, love at ... 256
Filial love ... 279
Filiform pulse explained ... 564
Follicular inflammation of the vulva, nature and treatment of ... 628
Food for infant after weaning, kind of ... 64
Food of infants ... 47
Food of parturient women ... 514
Food of school-girls ... 134
Fresh air in living-rooms ... 339
Frugality of the husband ... 288

G

Gaseous pulse explained ... 564
General appearance of pregnant women ... 420
General exhaustion from disturbed menstruation ... 237
Genitals, pruritis of ... 629
Government, discipline of ... 166
Government of childhood ... 165
Government, undue severity in ... 169
Government, when to begin ... 168

H

Habits on puberty, influence of ... 181
Hair of parturient women, dressing of ... 513
Hard pulse explained ... 564
Health, definition of ... 557
Heart-burn during pregnancy ... 421
Hemlock boughs, use of ... 343
Hemorrhage after delivery ... 495
Hemorrhage after delivery, premonitions of ... 496
Hemorrhage after delivery, treatment of ... 496
Hemorrhages, accidental, take place when ... 495
Hemorrhages, treatment of ... 495
Hemorrhoids or piles, symptoms of ... 584
Heritage of children ... 363
Home, blessing of children to the ... 363
Husband and wife, relations of ... 343
Husband and wife, privileges of ... 340
Husband, how to select ... 270
Husband, physical constitution of ... 273

PAGE.
Husband, qualifications of ... 276
Hygiene of Dysmenorrhea ... 210
Hygiene of infancy ... 20
Hygiene of suppressed menses ... 194
Hygienic treatment of menorrhagia ... 201
Hypertrophy or enlarged ovaries ... 662
Hysteria ... 219
Hysteria, causes of ... 222
Hysteria, characteristics of ... 231
Hysteria, manifestations of ... 219
Hysteria, simple ... 228
Hysteria, treatment of ... 231
Hysterical convulsions ... 226

I

Immoral practices, duty of parents in reference to ... 156
Immoral practices received from playmates and nurses ... 155
Immoral practices, what shall be done ... 156
Importance of the teeth ... 81
Important office of the menses ... 185
Improper bathing of infant, effect of ... 29
Improper methods of limiting offspring ... 387
Incidents attending change of life ... 537
Indigestion during pregnancy ... 414
Indulgences, sexual, proper and improper ... 348
Industry of the husband ... 288
Infancy, diseases of ... 84
Infancy, hygiene of ... 20
Infant, bathing of ... 25
Infant, causes of crying of ... 50
Infant, delicate organism of ... 18
Infant, dress of ... 26
Infant, first clothing of ... 22
Infant, first washing of ... 22
Infant, how to remove mucous covering of ... 22
Infant learning to walk ... 117
Infant, proper time to sleep ... 37
Infant, regularity of sleep required by ... 36
Infants, causes of irritations and eruptions on ... 26
Infants, clothing of ... 31
Infants, feeding or nursing of ... 43
Infants, food of ... 47
Infant, sleep required by ... 35, 37

PAGE.
Infant, temperature of water in bathing 28
Infant, time for bathing 28
Infant, what it is 17
Infant, what it may be become 17
Infant, weaning of 61
Inflammation of ovaries, treatment of 667
Inflammation of the vulva, treatment of 628
Inflammation of the womb, treatment of 639
Inflammatory dysmenorrhea 208
Influence of habits on puberty 181
Influence of race on menstruation 180
Influence of temperament on puberty 181
Influence of the death of husband upon wife 543
Inheritance, diseases of 459
Inheritance, influence of 459
Inheritance, influence of each parent over 459
Inheritance of disease 19
Inheritance of personal qualities 460
Inheritance of physical characteristics 18
Inheritance of physical qualities 461
Insanity of lactation 602
Insanity of pregnancy 599
Insanity, puerperal 600
Insanity, puerperal, treatment of 604
Insomnia, treatment of 590
Intellectual changes in puberty 176
Intemperate habits the cause of disease 561
Intermittent pulse explained 564
Inward fevers, symptoms, kinds and treatment of 610
Irritations and eruptions on infants, causes of 26

J

Jealousy of the husband 295
Jerking pulse explained 565

K

Kindness of the husband 280
Kinds of pulse 563

L

Labor, attention necessary to be given mother and child during 491
Labor, how to calculate time of 482
Labor, indications of tedious 484

PAGE.

Labor, signs of approaching 483
Labor, symptoms of 483
Labor, third stage of 488
Lactation, insanity of 602
Learning to walk 117
Leucorrhea, nature of 614
Leucorrhea or "whites," causes of 616
Leucorrhea, treatment of 619
Life production, order of 348
Light and air of the nursery 55
Limitation must be conceded 375
Limitation of offspring 365
Limitation of offspring prompted by pure motives 372
Limiting offspring, improper methods of 387
Limiting offspring, proper methods of 380
Local spasms 679
Lochia, nature of 595
Love at first sight 256
Love defined 258

M

Maiden, accomplishments of 245
Maiden, her province in society 247
Maiden, mental and physiological changes of 242
Maiden, ornamentation in dress of 246
Maiden, the 241
Maiden-wife, embarrassment of 345
Manifestations of hysteria 219
Marital relations and privileges 343
Marriage a serious step 331
Marriage ceremony 300
Marriage-chamber, the 337
Marriage, consanguinity to be considered in 271
Marriage contract, its importance 311
Marriage, effect of on the health 314
Marriage engagements, when to make 252
Marriage, peculiar duties attending 348
Marriage, proper age for 269
Marriage, second time 319
Marry, right time to 298
Maternal love 363
Mattresses 340
Mature womanhood 535

PAGE.
Medical treatment of menorrhagia 202
Melancholia, nature of. 603
Membranous dysmenorrhea 208
Mennorhagia, hygienic treatment of 201
Menorrhagia, medical treatment of 202
Menorrhagia, or excessive menstruation 197
Menses, accidental suppression of 189
Menses, acute suppression of 191
Menses, cessation of 536
Menses, cessation of, a law of nature 542
Menses, constitutional suppression of 189
Menses, evidence of the approach of 176
Menses, important office of 185
Menses, regularity of 186
Menses, suppressed, hygiene of 194
Menses, suppressed, treatment of 195
Menses, suppression of 188
Menses, symptoms of suppression of 192
Menses, time of 184
Menses, variations in time of 185
Menstrual colic 177
Menstrual colic, treatment of 177
Menstruation 178
Menstruation, painful, causes of 204
Menstruation, commencement of 178
Menstruation, diseases from derangement of 213
Menstruation, disturbed, general exhaustion from 237
Menstruation, influence of race on 180
Menstruation, while nursing, influence of 522
Menstruation, painful 203
Menstruation, period of 176
Menstruation, process of 186
Mental and physiological changes of the maiden 242
Methods of limiting offspring 380
Milk fever and sore breasts, nature of 623
Milk fever, treatment of 624
Milk, directions for arresting secretion of 528
Milk, influence of diet on 530
Milk, influence of mind on 523
Milk-leg, causes and treatment of 596
Milk, mother's, effect of anger on 523
Milk, over-abundance of 529
Milk, scantiness of 531
Milk, to overcome suppression of 533
Mind, affections of during pregnancy 423

PAGE.
Miscarriage 468
Miscarriage, causes of 471
Miscarriage, influence of age of mother on 468
Miscarriage, symptoms of 472
Miscarriage, treatment of 473
Miscarriage, when most likely to occur 469
Modesty, crowning beauty in woman 340
Moral aspect of the subject of dual conception 439
Morality of the husband 296
Moral training of child 144
Moral training of child, when to commence 149
Morning sickness and vomiting 567
Morning sickness from pregnancy, treatment of 569
Mother, condition of after child-birth 502
Mother, feelings of, with first-born child 501
Mother, responsibility of 501
Mother's milk, influence of diet on 520
Mother, the 501
Multiply and increase, meaning of 373

N

Nausea and vomiting of pregnancy 568
Nausea from pregnancy, treatment of 569
Nervous affection 423
Nervous exhaustion 668
Nervous exhaustion, causes and symptoms of 671
Nervous exhaustion, treatment for 683
New wife ignorant of sex 355
Nipples, care of, during pregnancy 455
Nipples, care of, while nursing 518
Nipples, development of 504
Nipples, how to harden 455
Nose-bleed, how to stop 100
Nourishment in artificial nursing, how administered 70
Nourishment in artificial nursing, kind of 69
Nurse, qualifications of 524
Nursery, its arrangement, situation and management 53
Nursery, light and air of 55
Nursery, regular temperature of 59
Nursery, surroundings of 56
Nursing, care of health during 516
Nursing, diseases of 517
Nursing, frequency of 518

PAGE.
Nursing infant, proper times for 52
Nursing or feeding infants 43
Nursing, regular periods for 50
Nursing, when proper 517

O

Objections to feather beds 342
Obstructive Dysmenorrhea 208
Offspring 360
Offspring, expectation of 362
Offspring, improper methods of limiting 387
Offspring, limitation of 376
Offspring limited, to what extent 376
Offspring, proper methods of limiting 380
Offspring, should it be limited 365
Onanism, evil effects of 402
Out-door exercise of the child, extent of 43
Ovarian displacements, treatment of 664
Ovaries, examination of 661
Ovaries, displacement of 661
Ovarian displacement, symptoms of 663
Ovaries, treatment of inflammation of 667
Overfeeding after weaning, results of 66
Overheated nursery, effect of 60
Overproduction 366
Over-rich diet after weaning, results of 66

P

Painful congress 358
Painful congress, derangement consequent upon 359
Painful menstruation, or dysmenorrhea 203
Pains in abdomen during pregnancy, causes of 570
Period of menstruation 176
Period of teething 73, 79
Periods of sterility 404
Peritoneal fever, nature of 610
Phlegmasia dolens, or milk-leg 596
Physical and moral effects of excess 354
Physical injuries 354
Physiological and mental changes of the maiden 242
Piles, causes of 585
Piles or hemorrhoids, symptoms of 584

PAGE.

Piles, treatment of 586
Placenta prævia, treatment of 497
Position of mother while nursing 504
Position of the mother 506
"Predisposing causes" of disease 559
Pregnancy 409
Pregnancy, can a woman become pregnant during 434
Pregnancy, cessation from marital intercourse during 475
Pregnancy, clothing during 447
Pregnancy, company during 457
Pregnancy, conditions necessary to 410
Pregnancy, diseases of 412
Pregnancy, duration of 424
Pregnancy, effect of, on the health 442
Pregnancy, exercise during 450
Pregnancy, fancies of 458
Pregnancy, food during 446
Pregnancy, gratification of fancies during 458
Pregnancy, hygiene of 442
Pregnancy, influence of 521
Pregnancy, influence on the milk of nursing mother 521
Pregnancy, nausea and vomiting from 568
Pregnancy, pains in bowels during 570
Pregnancy, relation of husband and wife during 474
Pregnancy, surroundings during 444
Pregnancy, symptoms of 411
Pregnancy, ventilation of sleeping-room during 454
Preserving the teeth 83
Preventives of conception 388
Principal causes of disease 558
Process of menstruation 186
Prolapsus of the uterus 652
Proper indulgence 150
Proper methods of limiting offspring 380
Proper time to marry 298
Pruritis of the genitals 629
Pruritis of the genitals, treatment of 630
Puberty 175
Puberty, age of 178
Puberty attended with dangers to health 182
Puberty, definition of 175
Puberty, diet at the age of 183
Puberty, exercise at the age of 183
Puberty, intellectual changes in 176
Puberty, signs of 176

PAGE.
Puerperal convulsions, symptoms and causes of..... 607
Puerperal convulsions, treatment of..... 608
Puerperal fever, nature of..... 610
Puerperal insanity (proper)..... 600
Puerperal insanity, treatment of..... 604
Puerperal mania..... 598
Puerperal peritonitis, nature of..... 610
Pulse, various kinds of..... 563
Purity of the husband..... 281

Q

Qualifications of a husband..... 276
Quickening, as a sign of pregnancy..... 418
Quickening, flatulence mistaken for..... 419
Quickening, time of..... 418
Quick pulse explained..... 565

R

Regularity of the menses..... 186
Relation of husband and wife during nursing..... 534
Religion of the husband..... 296
Religious training, distinction between right and wrong..... 173
Religious training, doing wrong, disastrous, etc..... 173
Religious training, shunning wrong..... 173
Religious training, when to commence..... 173
Remedies for irritability during dentation..... 76
Reproductive period of woman's life..... 536
Rest..... 340
Rest after delivery..... 508
Retroversion, nature of..... 654
Rocking the infant..... 40

S

St. Vitus' Dance, chorea, treatment of..... 218
St. Vitus' dance, or chorea..... 215
St. Vitus' dance, symptoms of..... 216
Second dentation..... 80
Second vaccination, necessity of..... 117
Sex, how to determine whether boy or girl..... 441
Sex, ignorance of..... 355
Sex of child, how to predict before birth..... 440

PAGE.

Sexual commerce among lower animals 349
Sexual commerce among savages 349
Sexual gratification 350
Sexual gratification, theories concerning 350
Sexual indulgences, proper and improper 348
Sex, what may be known of the 440
Should offspring be limited ? 365
Sickness, morning, and vomiting 567
Sickness, morning, treatment of 569
Simple dysmenorrhea 206
Simple hysteria 228
Sleep 340
Sleeping infant, how to arrange cot of 35
Sleeplessness of children 38
Sleep required by infant 35
Small pulse explained 565
Soap in bathing, effect of use of 27
Sore breasts and milk fever, nature of 623
Sore eyes, treatment of 98
Sore mouth of infants, causes of 89
Sore mouth of infants, treatment of 90
Sounds of fœtal heart 420
Sponge mattresses 342
Sterility, causes of 406
Sterility during lactation 404
Sterility, periods of 404
Subsequent marriage 319
Sunshine in the nursery, effect of 58
Suppressed menses, hygiene of 194
Suppression of menses 188
Suppression of the menses, accidental 189
Suppression of the menses, causes of 189
Suppression of the menses, constitutional 189
Symptoms of acute suppression of the menses 192
Symptoms of chorea, or St. Vitus' dance 216
Symptoms of dysmenorrhea 204
Symptoms of nervous exhaustion 671
Symptoms of ovarian displacement 663
Symptoms of prolapsus of uterus 652
Swedish movement cure for constipation 576

T

Tea, effects of, on infants 45
Teeth, care of 83

PAGE.
Teeth, classified 78
Teeth, development of 78
Teething, age of infant 75
Teething, first stage 75
Teeth, importance of 81
Teething, period of 73, 79
Teething, second stage of 75
Temperament, influence of, on puberty 181
Temperate habits of the husband 285
Temperature of nursery 59
Temperature of water in bathing the infant 28
Tense pulse explained 565
Time for bathing infant 28
Time of weaning 61
Time to marry 298
Toothache during pregnancy 422
Treatment during change of life 540
Treatment for displacements of the womb 655
Treatment for general exhaustion 239
Treatment for nervous exhaustion 683
Treatment for ovarian displacements 664
Treatment of chorea or St. Vitus' dance 218
Treatment of constipation by Swedish movement cure 576
Treatment of convulsions of infants 87
Treatment of diseases of the vulva 626
Treatment of hysteria 231
Treatment of leucorrhea 619
Treatment of menstrual colic 177
Treatment of puerperal convulsions 608
Treatment of puerperal insanity 604
Treatment of sore mouth of infants 90
Treatment of suppressed menstruation 195

U

Unhappy marriages, some causes of 265
Urinary troubles with infants, treatment of 101
Uterus, general disorders of 646
Uterus, prolapsus of 652

V

Vaccination, how the operation is performed 115
Vaccination of children, proper time for 112

PAGE.

Vaccination, present method of 114
Vaccination the second time, necessity of 117
Vaginal discharges, nature of 595
Vaginal injection to prevent conception, effects of 400
Variations in time of the menses 185
Varicose, or enlarged veins 588
Varicose veins, treatment of 589
Various kinds of pulse 563
Version, conditions for performing 498
Vertigo, nature of 672
Ventilation of the nursery 58
Virginity, test of 346
Vomiting and morning sickness 567
Vomiting from pregnancy, treatment of 569
Vulva, diseases of 625

W

Wakefulness, treatment of 590
Washing of new-born infant 22
Water in bathing the infant, temperature of 28
Weaning infant gradually 63
Weaning of the infant 61
Weaning, sources of danger in 65
Wedding, arrangements for 300
Wedding, ceremony of 300
Wedding tour 308
Wet-nurse, how to select 66, 527
Wet-nurse, requisites of 66
Wet-nursing, method of raising children by 525
"Whites," or leucorrhea, nature of 614
"Whites," or leucorrhea, treatment of 619
Whooping-cough, complications resulting from 109
Whooping-cough, duration of 108
Whooping-cough, nature of 106
Whooping-cough, treatment of 109
Wife, influence of death of husband upon 543
Wife, new, ignorant of sex 355
Wife, the 331
Wife, the new epoch 331
Wiry pulse explained 565
Woman a home maker 332
Womanhood, mature, general remarks 535
Woman's life, reproductive period of 536

PAGE.
Womb, displacement of..... 648
Womb, displacements of, general treatment for..... 655
Womb, inflammation of..... 638
Women, diseases of..... 553
Women, diseases of, general remarks..... 553
Worms in infants, symptoms and causes of..... 92
Worms in infants, treatment for 93

Y

Youth, urinary troubles in, treatment of 101